

**PSYCHOLOGICAL MINDEDNESS AS A PREDICTOR OF TREATMENT
OUTCOME WITH DEPRESSED ADOLESCENTS**

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PSYCHOLOGICAL MINDEDNESS AS A PREDICTOR OF TREATMENT OUTCOME WITH DEPRESSED ADOLESCENTS

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This study examined the relation of psychological mindedness (PM) to treatment outcome and explored whether PM might be enhanced by participation in cognitive-behavioral therapy, an approach that teaches skills reflective of those involved in PM. Psychological mindedness is assumed to be an attribute that contributes to a patient's ability to engage in and benefit from insight oriented psychotherapy; there has been limited attention in regard to its potential impact on other therapeutic approaches.

This study evaluated PM within the context of a clinical trial of three different psychotherapeutic interventions for adolescent depression including cognitive-behavioral therapy (CBT), systemic-behavior family therapy (SBFT), and non-directive supportive therapy (NST). A total of 101 adolescents completed a modified version of the Psychological Mindedness Scale at pre-and post- treatment. It was predicted that higher PM baseline scores would result in improved outcome as assessed by the Beck Depression Inventory (BDI) and the Children's Global Assessment Scale (CGAS). Higher PM scores were not predictive of improvement of depression or psychosocial functioning across the whole sample. However, there was an interaction within the high verses low PM group such that the manner in which depression responded differed across treatment groups over time. CBT had more rapid improvement

compared to SBFT, but not NST resulting in a lower BDI at the end of treatment. A secondary analysis, predicting that CBT would show a greater increase in PM over SBFT and NST was not confirmed. Patients in CBT did not show a greater increase in PM over SBFT and NST. However, there was a significant increase in patient's PM across all three treatments.

The relation between baseline demographic and clinical measures and PM were also investigated. Higher PM was associated with increased age and older age of onset of depression. Clinical variables such as increased hopelessness and increased depression were associated with a lower PM score. Clinical implications of these findings were discussed, current limitations to the study of PM were reviewed, and suggestions for future research presented.

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1.0 CHAPTER ONE

1.1 INTRODUCTION

Identifying variables that predict which types of patients are most likely to benefit from psychotherapy has been the focus of numerous reviews (Bergin & Garfield, 1994; Luborsky, Christoph, Mintz, & Auerbach, 1988). Variables such as amount of motivation for treatment, positive attitudes toward self and therapist, and level of intelligence have been associated with differential outcome. One pretreatment variable that does not appear to have been systematically studied is the construct of psychological mindedness (PM), and this is especially true in adolescent psychotherapy research.

The primary aim of this study was to empirically examine the relation of PM to treatment outcome within an adolescent population. Conceptual definitions of PM have included variant, but related descriptions. Some definitions relate solely to the self, “a person’s ability to see relationships among thoughts, feelings, and actions with the goal of learning the meanings and causes of his experiences and behaviors” (Applebaum, 1973, p. 36). Conte (1996) extended the concept beyond self-focus, as involving “. . . both self-understanding and an interest in the motivation and behavior of others” (p.251). Finally, Hall’s (1992) definition introduces the multidimensional nature of PM. She defined it as “reflectivity about psychological processes, relationships and meanings [that] is displayed by . . . both interest in and ability for such reflectivity across affective and intellectual dimensions” (pp. 139-140). Collectively, these

definitions suggest that PM is related to ability, personality, motivation, and interest. For the purpose of this study, PM was viewed as the interest in and motivation to achieve psychological understanding of the self. A person was considered to be psychologically minded if she or he was able to access feelings, was open to new ideas, was willing to try and understand oneself and others, and had an interest in the meaning and motivation of his or her own and other's behavior.

Patients who are high in psychological mindedness would appear to be introspective and, one might speculate, more likely to benefit from the process of psychotherapy. Interest in this concept grew out of the author's experience of conducting psychotherapy with adolescents in an outpatient clinic focusing on depression, suicidal ideation, and suicidal behavior. Certain adolescents appeared to be qualitatively different from others. For example, they seemed to be more introspective, had a desire for self-understanding, and overall engaged more in the treatment process. On an anecdotal basis, these adolescents seemed to fare better in treatment than their counterparts. The aim of this study was to explore the differences between the two groups. In the less introspective group, the therapist might focus on the consequences of self-destructive behavior, emphasize skill development, or more quickly suggest consideration of a medication trial to help ameliorate an unpleasant affective state rather than attempting to work the problem through using talk therapy. The study's intent was to explore on an empirical basis the relation of PM to treatment outcome in an effort to aid therapists in determining who is most likely to benefit from psychotherapy as well as provide direction on the approach to treatment.

1.1.1 Statement of the Problem

Researchers have focused on the construct of PM as it relates to treatment outcome in adult patients. In 1990, Conte, Plutchik, Jung, Picard, Karusa, and Lotterman investigated the

relation of PM to outcome in a group of adult, affectively disordered outpatients. Participants' pretherapy PM scores were found to significantly correlate with the number of psychotherapy sessions attended, increase in global functioning, and decrease in psychosocial symptoms. The results supported the positive relation between PM and outcome, but were limited by the small sample size ($N = 44$) and exclusive focus on adults. Piper, Joyce, Rosie, and Azim (1994) found similar results in a study focused on psychiatric outpatients ($N = 109$) that included a small cohort of adolescents. Results of the study indicated that PM played an important role in predicting favorable treatment outcome. Two additional studies attempted to duplicate the positive relation between PM and treatment outcome. McCallum and Piper (1990) found that PM was predictive of psychiatric outpatients remaining in short-term group therapy but failed to find significant direct relation between PM and outcomes. Conte et al. (1996) attempted to replicate their previous 1990 study using a larger sample size of 116 outpatients. The authors found a high level of PM at intake was significantly related to number of sessions attended; however, the prediction of a relation between high PM and treatment outcome was not duplicated.

Most attention to PM has focused on clarifying the conceptual meaning of the term, with less attention devoted to the issue of measurement. To date only a limited number of studies have examined the relation between PM and outcome and these were inconclusive in regard to their findings. Therefore, a primary aim of this study was to examine the relation of PM to outcome in the adolescent population.

A related area of interest, beyond measurement of PM to outcome, was the issue of stability of psychological mindedness within an individual. A review of the literature on PM conveys the impression that a patient's PM is relatively stable and therefore difficult to change.

Consider the terminology used by researchers in defining the concept. Wolitzky and Reuben (1974) defined PM as “a *tendency* to understand and explain behavior in psychological terms,” (p. 26). In an article focusing on psychological mindedness in psychotherapists, Farber (1985) stated that PM “may be considered a *trait* which has at its core the disposition to reflect upon the meaning and motivation of behavior, thoughts, and feelings in oneself and others” (p. 170). Further emphasizing PM as an innate trait, he continued, “psychological mindedness is a gift, a way of being and understanding” (p. 176). Appelbaum (1973) who questioned whether an individual can be trained to become psychologically minded expressed the most definitive view. He answered, “probably not, to the extent that it is dependent upon constitutional or other early developmental structures, just as high musical proficiency cannot be taught to those without basic musical abilities” (p. 44). The implication was that PM was basically an attribute that some people possess while others do not.

This view was consistent with the emphasis on the pretherapy assessment of PM. Here, PM primarily served as a prognostic indicator for identifying which patients were suitable for dynamically oriented psychotherapies (Coltart, 1988; McCallum & Piper, 1997; Sifneos, 1968). As noted, most research on this construct has been conducted with the adult population. Therefore it was possible that adults (having had more years to progress in their cognitive and emotional development) reached a ceiling in their level of PM. Adolescents are at a different point of development in the midst of continuing maturation of their cognitive and emotional skills. The potential for growth in their level of PM may be greater than that of adults and may be enhanced by participation in a therapy process. Because therapy invites self-reflection, the adolescent engages in a process of exercising cognitive and emotional skills involved in the development of PM. This could include evaluating perceptions of self or others, of events,

and/or sifting through mixed emotions. Moreover, certain aspects of PM may be influenced in a positive direction such as openness to change and interest in the meaning and motivation of behavior. Since practice and experience are important variables in the development of any skill, this study also investigated the development of PM in the context of the adolescents' participation in therapy. In the study several questions related to PM were explored. Does the experience of therapy influence the development of PM? Are there differential effects dependent on the type of therapy that is involved? For example, will adolescents involved in a therapy that teaches skills of self-reflection be more likely to demonstrate accretions in PM?

Data for this study were derived from a clinical trial of three different psychotherapeutic interventions for adolescent depression (Brent, Holder, Kolko, Birmaher, Baugher, Roth, Iyengar & Johnson, 1997). Funded by the National Institute of Mental Health, the clinical trial occurred over a five-year period beginning in 1991. In the clinical trial, 107 adolescent patients with DSM-III-R major depressive disorder were randomly assigned to one of three treatments. The clinical trial compared cognitive-behavioral therapy (CBT), systemic-behavior therapy (SBFT), and non-directive supportive therapy (NST). It was predicted that patients treated with CBT and SBFT, relative to patients treated with NST, would show greater improvement in the prevalence and severity of depression and suicidality. The main finding was that CBT resulted in more rapid and complete symptomatic relief of depression than either SBFT or NST. As the largest and most extensive clinical trial ever conducted assessing psychotherapeutic interventions with this population, the study's finding represented a major contribution to the field.

As part of the clinical trial, participants completed a bound booklet of nine measures assessing a variety of areas. For a complete description see Brent et al., 1997. The measure of interest to this study was a measure of psychological mindedness that was completed at

assessment and the final 12th session. A description of the *Psychological Mindedness Scale* (Conte, Ratto, & Karusu, 1996) utilized in this study is provided in Chapter Three. This measurement of PM provided the basis for the primary aim of this study, to examine the relation of PM to outcome, and a secondary aim, to explore if the experience of therapy influences the development of PM. Specifically, it was proposed that cognitive behavioral therapy would enhance the development of PM as compared to the other two treatment approaches. Cognitive-behavioral treatment requires patients to comprehend the interaction between thoughts, feelings, and behaviors. This task closely mirrored some definitions of PM (e.g., Applebaum, 1973; Hall, 1992), and presupposed an ability and motivation for self-reflection, which is central to PM. It was proposed that exercising these cognitive processes would positively impact the development of PM. A complete discussion of the treatment approaches occurs in Chapter Three.

1.1.2 Significance of the Study

In summary, understanding the relation of PM to outcome could extend knowledge about what types of patients are most likely to benefit from psychotherapy. More attention has been afforded to the conceptual underpinnings of PM with less emphasis on how PM potentially has an impact on patient improvement. Most work on PM has focused on the adult population, as compared to the adolescent population, although there is paucity of research in both groups in regard to the relation of PM to outcome. A subset of studies suggested that patients high in PM show greater improvement on various outcome measures, although results pertaining to outcome studies are mixed. This study extended these findings by exploring the relation of PM to outcome in a group of adolescents who participated in a clinical treatment trial for depression.

It was unclear whether or how psychological mindedness itself might respond to treatment. Certainly some forms of treatment that focus on skills involved in PM might result in a different response by the patient. This study explored whether different treatments or participation in the process of therapy in and of itself results in accretions of PM. The following hypotheses were explored.

1.1.3 Hypotheses

1. Adolescents rated higher in psychological mindedness as compared to adolescents rated lower in psychological mindedness will experience greater improvement in severity of depression following psychotherapy as measured on the self-rated *Beck Depression Inventory* (Beck, 1987) and level of social and psychiatric functioning as assessed on the interview rated *Children's Global Assessment Scale* (Shaffer, Gould, Brasic Ambrosini, Fisher, Bird & Aluwahlia, 1982).
2. Patients treated with cognitive behavioral therapy will show a greater increase in PM compared to systemic behavioral family therapy and nondirective supportive therapy.

1.1.4 Definition of Terms

Psychological mindedness is the interest in and motivation to achieve psychological understanding of the self. Psychological mindedness was operationalized as the ability to access feelings, openness to new ideas, a willingness to try and understand self and others, and interest in the meaning and motivation of behavior (Conte et al., 1996).

Depression was defined as low mood and negative feelings about self and future (Beck, 1987).

Level of functioning was defined as impairment in social and psychiatric functioning. Functioning was assessed in terms of adolescent behavior at home, school, and with peers (Shaffer, Gould et al., 1982).

2.0 CHAPTER

2.1 REVIEW OF THE LITERATURE

Although the concept of psychological mindedness has a long history in psychology, it does not appear in the literature as an identified term until the last half of the 21st century. Most clinicians intuitively understand its meaning and value to the psychotherapy process, yet empirical attention has been relatively scant. PM represents an abstract process, not directly observable, and therefore complex in terms of definition. It has been heavily influenced by the theoretical orientation of those who have grappled with its meaning. The following section reviews definitions of psychological mindedness. Subsequent sections describe attempts to measure PM and review empirical research on the relation between PM and outcome and between PM and personal characteristics. The chapter concludes with a description of the evolutions of psychological mindedness in children and adolescents.

2.1.1 Definitions of Psychological Mindedness

According to Farber (1985) the history of PM dates back to Murray's (1938) concept of "intraception" (a disposition toward emphasizing the psychological aspects of persons or events) and before that to Jung's (1922) concept of "introversion" and William James' (1907) concept of "tenderminded." Despite this lineage, PM remains an elusive concept to define. Words

including insightfulness, reflectiveness, self-appraisal, self-awareness, and introspection have been used synonymously with PM (Appelbaum, 1973). Operational definitions reviewed below vary considerably, despite some overlapping similarities.

Tolar and Reznikoff (1960) define PM as an ability to comprehend the causative factors that underlie or determine behaviors and general attitudes. Tolar and Reznikoff elaborate that this type of insight encompasses an ability to comprehend the psychoanalytic concept of defense mechanisms and unconscious conflicts in everyday scenarios.

Reiser (1971) defines PM as consisting of three elements: (a) sensitivity to symbolic meaning and similarities between life events in historical context; (b) empathy for others and intuition about their affective states; and (c) curiosity about human behavior and motivations. In a subsequent article, Lower and colleagues (1972) define PM as “a capacity for insight, introspection, intuition, remembering dreams and fantasies, awareness of transference, of internal conflict; sensitivity to own feelings and curiosity about drives” (p. 615).

Appelbaum (1973) defines PM as “a person’s ability to see relationships among thoughts, feelings, and actions, with the goal of learning the meanings and causes of experiences and behavior” (p.36). This definition closely mirrors Farber’s (1985) description of PM as the disposition to reflect upon the meaning and motivations of one’s own and other’s behavior. The four dimensions thought to underlie this capability, according to Appelbaum, include: (a) cognitive abilities and intuitive talents; (b) a curiosity and genuine interest in human beings such that an individual is intrigued by the way that the mind works, is capable of concern for the self and is similarly able “to allow affects their rightful place” (p.37); (c) for purposes of treatment, a self-directedness that characterizes a person’s psychological thinking; and (d) a present and

prospective ability on the part of the individual “to put his capacities for psychological thinking at the service of the psychoanalytic process” (p.37).

Other clinicians as well as researchers who have grappled with the meaning of psychological mindedness have embraced formulations less comprehensive in scope than Appelbaum’s. Ryan and Cicchetti (1985) in examining pre-therapy variables that might predict the formation of a therapeutic alliance in psychotherapy, note that PM “refers to the quality of patient’s psychological set toward himself/herself and his/her difficulties” (p. 720). In operational terms, patients who regard the source of their disturbance as external to the self are judged to be at a low point in terms of psychological mindedness in contrast to those at a high point who describe their experience of problems as intrapsychic or arising from within the self. Similarly, Rogawski (1982) defines PM as the ability to verbalize internal experiences as the product of one’s own mind and feelings and not caused by another.

Levinson, Sharaf, and Gilbert (1966) view psychological mindedness as a disposition that is comprised of an intellectual and emotional component. The former aspect pertains to a cognitive understanding of psychological issues while the latter refers to the individual’s capacity to experience his/her inner life, as well as the ability to be attuned to and share another’s feelings. This is similar to Hall (1992), who defined accurate psychological mindedness as “reflectivity about psychological processes, relationships, and meanings [that] is displayed by ...both interest and ability for such reflectivity across affective and intellectual dimensions” (pp. 139-140). According to Hall, ability is contributed to and limited by interest and intellectual psychological mindedness is contributed to and limited by affective psychological mindedness. Hall constructed what she refers to as a “ceiling” model in which two distinct dimensions

(interest/ability and intellect/affect) are to be understood “not in a strictly causal manner but in a contributive and limiting manner” (p. 135). Hall describes the relationship in practical terms,

just as people cannot display accurate psychological mindedness if they have no interest in doing so, they will come up similarly empty if they have the interest but lack the ability (p. 136).

Werman (1979) states that PM is related to one’s conception of the external world, as well as one’s introspective abilities. According to Werman, individuals with good PM are better able to tolerate ambiguity and to believe in the random nature of events.

Wolitzky and Reuben (1974) in their work on the role of psychological mindedness in the psychotherapeutic process, argued that PM is best understood as

... a tendency to understand or explain behavior in psychological terms, that is, to view behavior as expressing and communicating information about the needs, wishes, purposes, intentions, conflicts, defensive strategies, etc., of the person in question, oneself or another.

They note that interest and ability “may have different correlates and different implications for progress in psychotherapy when the focus of understanding is the self” (p.26). Dollinger, Reader, Marnett, and Tylanda (1983) explain PM as “reading between the lines of behavior . . . in other words, looking beyond the surface of overt behavior for underlying psychological meaning or consistency” (pp. 183-184).

Coltart (1988) explains how an insight-oriented therapist should assess PM in the diagnostic interview. According to Coltart, the following elements comprise PM:

- 1) The capacity to give a psychological history [which deepens as it progresses]...
- 2) The capacity to give a history without needing too much prompting, and a history which gives the listener an increasing awareness that the patient feels currently, related to himself, to his own story...
- 3) The capacity to bring up memories with appropriate affect...

- 4) Some awareness in the patient that he has an unconscious mental life...
- 5) Some capacity to step back...from self experience, and observe it reflectively...
- 6) A capacity, or more strongly a wish, to accept and handle increased responsibility for the self...
- 7) Imagination...
- 8) Some capacity for achievement and some realistic self-esteem...
- 9) Overall impression [about the assessor's experience of a thorough, intense, working consultation with a psychologically minded person] (pp.819-820).

McCallum and Piper (1997) describe PM psychoanalytically as a person's ability to identify dynamic (intra-psychic) conflicts, for example, wishes, anxiety, and defenses and relate them to a person's difficulties. This definition is similar to Wolitzky and Reuben's (1974) description of PM as the ability to view behavior in psychological terms by seeing actions as expressing underlying needs, wishes, defenses, etc. In a similar vein, Baekeland and Lundwall's (1975) definition relates to a person's suitability for treatment. According to these researchers, PM

. . . implies the patient's ability to recognize and admit psychological and interpersonal problems, to see himself in psychological terms, to use or to accept the use of psychological constructs, or to at least imagine psychological causes of his symptoms and behaviors (p. 756).

The definitions of PM provided thus far have all been offered by psychodynamic theorists within the psychoanalytic therapeutic arena. Historically, interest in PM grew out of attempts to identify patients best suited for analytically oriented therapies. Thus, much of the work in attempting to define the construct of PM revolved around analytic concepts.

Recently, Grant (2001) broadened the definition of PM to be more inclusive of cognitive-behavioral processes. According to Grant, PM is best conceptualized as a form of meta-

cognition, “a predisposition to engage in acts of affective and intellectual inquiry into how and why oneself and/or others behave, think, and feel the way that they do” (p.12). Grant’s model proposes PM be assessed by measuring individuals’ metacognitive processes of self-reflection and insight. In a re-conceptualization of Hall’s (1992) “ceiling” model, Grant maintains the major premise that PM involves affective and intellectual interest in being psychologically minded, and affective and intellectual abilities and skills to be psychologically minded. However, he differs in view on Hall’s notion that the relation between ‘interest’ and ‘ability’ is unidirectional with one both contributing to and limiting the other. In his view this is an oversimplification “because one’s ability to perform a task mediates one’s interest in performing that task, and one’s interests stimulate one’s abilities – a multidirectional relationship” (p. 14). In his model the predisposition for affective and intellectual interest leads to reflective inquiry (through therapy or informal inquiry) and results in insight. Grant views insight as the product of reflective inquiry and suggests that accretions in insight may ultimately increase an individual’s PM. This would suggest PM may be more malleable to change and not a static characteristic as suggested by some writers (Appelbaum, 1973; Farber, 1985; Wolitzky & Reuben, 1985). In discussing practical applications of this model of PM, Grant notes that it has special relevance for CBT because self-monitoring and self-evaluation of one’s cognitions, emotions, and behaviors is central to successful practice of this treatment. A review of the literature did not connect this new model to any current research.

Conte, Ratto, and Karusa (1996) also define PM in a more trans-theoretical way, despite their psychodynamic orientation. The definition is based on a factor analysis of the PM Scale. It is considered to be trans-theoretical because it does not attempt to operationalize psychoanalytic variables. Conte et al. (1996) provide the following definition:

PM is an attribute of an individual that presupposes a degree of access to one's feelings, a willingness to try to understand oneself and others, a belief in the benefit of discussing one's problems, and interest in the meaning and motivation of one's own and others' thoughts, feelings, and behavior and capacity for change (p. 254).

Conte et al.'s, definition is compatible with previous conceptualizations of PM. It reflects Appelbaum's (1973) and Grant's notion of PM as a process of insight that allows an individual to see how thoughts, feelings, and actions are interrelated and Farber's view of it as interest in the motivation of one's own and others' behavior. It also reflects Hall's definition of PM in terms of interest in and an ability to develop understanding of psychological processes.

Recently the construct of psychological mindedness in children and adolescents has begun to receive attention. Hatcher and Hatcher (1997) developed a measure for assessing psychological mindedness in this population (reviewed in the following chapter). They define PM as "the capacity to achieve psychological understanding of the self and of others." PM involves the child's growing comprehension of the motives, attitudes, and characteristics of the self and others. According to these researchers, PM is built on both cognitive and emotional skills, and can be seen as a term characterizing children's ability to make sense of themselves and the world in psychological terms. In their view, PM is possible because of the child's and adolescent's increasing ability for abstraction, growing understanding of the self, of mixed emotions, and taking the perspective of the others.

2.1.2 Section Summary

A review of the various definitions of PM underscores the difficulty of defining this complex construct. It is not surprising that a single definition of the term does not currently exist given the diversity of conceptualization described above. PM is a construct with a long history

of interest represented in the empirical literature since 1960. Emphasis on the importance of PM in the service of psychodynamic therapies has recently broadened to include other theoretical orientations. No matter the orientation, there appears to be a consensus by theorists that those who possess this attribute are somehow at an advantage in the therapy process.

There appears to be certain shared assumptions among the varying definitions of PM. First, a psychologically minded person turns attention inward in evaluating subjective experience as it relates to outside events. Such a person utilizes both cognitive and emotional processes. A psychologically minded person reflects upon and attempts to integrate experiences and is able to access feelings in pursuit of gaining self- knowledge. He or she is not limited to an intellectual understanding of events. Finally, there is an openness and receptivity of psychologically minded persons to the self-evaluative process.

An adequate definition of PM also implies that the construct can be assessed with a standardized instrument. The following section reviews the few published instruments that have been used to assess PM.

2.1.3 The Measurement of Psychological Mindedness

Despite the theoretical attention devoted to the concept of PM and numerous attempts to define it, only a few instruments have been developed to measure the construct. These instruments reviewed below, include self-report measures, a videotape and interview process, and therapist rated reviews based on projective techniques.

2.1.4 Self- Report Measures

2.1.4.1 Insight Test

According to Connie and Ratto's (1997) review of self-report measures assessing PM, Tolar and Reznikoff (1960) created the Insight Test because the concept occupied a major position at the time in theories of psychotherapy, with few empirical investigations of insight. Insight was defined as the ability to realistically perceive the environment and the ability to comprehend the causative factors determining the attitude and behaviors of others (both of which were presumed to underlie an understanding of one's own motivation). The Insight Test measures how well subjects identify defense mechanisms as reflected in their choice of the "best" and "worst" explanations of 27 hypothetical situations. The underlying premise is that an individual's PM (used synonymously with insight) can be assessed by determining the degree to which an individual accurately interprets the hypothetical situations. The following example represents the defense mechanism reaction formation (correct answer is number three):

A man who intensely dislikes a fellow worker goes out of his way to speak well of him.

1. The man really doesn't dislike his coworker.
2. The man believes he will make a better impression on others by speaking well of him.
3. The man is overdoing his praises in order to cover up for his real feelings of dislike.
4. The man doesn't want to hurt anyone's feelings. (Conte & Ratto, 1997, p.3)

Despite its appeal as the only measure that examines insight into specific defense mechanisms, the Insight Test has several shortcomings. The only reliability data presented by Tolar and Reznikoff (1960) was a test-retest coefficient of .86 obtained on a sample of 27

introductory psychology students after a one-week interval. These authors did not report on any measure of internal consistency. The only measure of internal consistency, reported by Abramowitz and Abramowitz (1974) for a modified 12-situation version was a relatively low coefficient alpha of .60. Other issues include difficulty subjects may have in responding to the questions due to somewhat confusing directions (McCallum & Piper, 1996) and a reliance on psychoanalytically derived defense mechanisms, limiting the research utility of the instrument in non-psychoanalytic treatment studies. The Insight Test has been used occasionally to measure the construct (Abramowitz & Abramowitz, 1974; Piper, Azim, McCallum & Joyce, 1990) reviewed in a later section on outcome and PM.

2.1.5 The California Personality Inventory (CPI)

The Psychological Mindedness scale (Py) of the CPI is the most renowned and widely used measure of the construct (Conte & Ratto, 1997; McCallum & Piper, 1996). The Py is one of 18 subscales of the CPI developed by Gough (1957, 1975) to create a measure of descriptive concepts relevant to an individual's personal and social context. As described by Conte and Ratto (1997), the CPI was an attempt to create a measure of interpersonal behavior different from those available at the time, which were primarily used in special settings such as psychiatric clinics or for a particular problem such as a vocational choice. The 22-item Py scale consists of six items that are keyed true and 16 keyed false. Gough (1957) originally defined the psychologically minded individual as one who "is interested in, and responsive to, the inner needs, motives, and experiences of others" (p. 11). A more recent definition (Gough, 1987, p. 7) described a highly psychologically minded person as "more interested in why people do what they do than in what they do; good judge of how people feel and what they think about things."

On close examination, the Py Scale of the CPI does not appear to be an appropriate measure of PM. For example, the emphasis in Gough's (1987) definition is on the "other." Neither the definition nor description of high scoring individuals suggests that psychological mindedness involves introspection or self-understanding (Conte & Ratto, 1997). Some items have a degree of face validity, the statement "I have a tendency to give up easily when I meet with difficult problems" suggests a person who is resourceful enough to concentrate on a problem. Others do not: "We ought to pay our elected officials better than we do" or "I would like to write a technical book" do not appear to describe a person who is interested or responsive to others. Grant (2001) points out that the scale makes no attempt to specify the factors that comprise PM. Conte and Ratto (1997) cite that a definite weakness of the scale is that the manual does not provide a detailed description of Gough's scale construction procedures. Test-retest reliability is rather low (r ranges .46 to .65) and only one study (Yalom, Houts & Zimerberg, 1967) has assessed the predictive validity of the Py scale. Pre-treatment scores were not correlated with interviewer ratings of improvement in psychosocial adjustment following dynamic group therapy. Hall (1992) concludes that given these factors the Py scale should not be considered a valid measure of PM.

2.1.6 The Self-Consciousness Scale

Farber (1985) used the private self-consciousness subscale of Fenigstein's (1975) Self-Consciousness Scale to measure PM. Farber asserts that private self-consciousness, defined as the "habitual attendance to one's thoughts, motives and feelings" (Turner, Scheier, Carver & Ickes, 1978, p. 285) is the construct most closely related to psychological mindedness. Farber (1985) reasoned that the private self-consciousness subscale closely mirrored his definition of

PM as the disposition to reflect upon the meanings and motivations of one's own and other's behavior. The private self-consciousness subscale consists of 10 items that measure self-reflection (i.e. "I reflect about myself a lot," "I'm generally attentive to my inner feelings"). Farber (1989) while stipulating to the potential positive aspects of PM (increased self-awareness and self-acceptance) was interested in investigating a potential downside of PM. He remarks "an alternative view, however, is that psychological mindedness may interfere with spontaneity, self-esteem, emotional health, and emotional responsiveness" (Farber, 1989, p.10). Using this scale, Farber (1989) investigated the relation of PM to emotional responsiveness and self-esteem. He found that high PM individuals experienced a more expansive affective life than others do, but also tended to have lower self-esteem.

In a review of Farber's study (1989), McCallum and Piper (1996) comment that perhaps it is a better measure of critical self-scrutiny than psychological mindedness. Grant (2001) observes that although Farber regards private self-consciousness as being synonymous with PM, there are differences between them. For example, although both constructs involve an examination of one's mental and emotional processes, PM is a process directed at the explanation or understanding of one's own and others' behavior, and private self-consciousness is an awareness of one's own thoughts, feelings, and behavior. Thus, rather than being synonymous with PM, private self-consciousness is probably one of a number of constructs that combine to form PM. By contrast, the PM Scale (Conte, Ratto & Karusa, 1996) is more comprehensive in scope, assessing both self-reflection and reflection regarding others.

2.1.7 Psychological Mindedness Scale (PM Scale)

The PM Scale (Conte et al., 1996) is the only self-report measure of psychological mindedness that has been subjected to ongoing psychometric assessment (Conte, Buckley, Picard & Karusa, 1995; Conte et al., 1996). It was designed to measure a patient's suitability for dynamically oriented psychotherapy and to determine the extent to which it can predict other variables related to psychotherapy outcome. According to Conte and Ratto (1997) the scale is not theoretically based, as it does not attempt to operationalize psychoanalytic variables. However, the authors assert that it does have a theoretical frame of reference in that it attempts to measure characteristics such as a willingness to commit oneself to the therapeutic alliance and a basic agreement with those values and norms associated with good prognosis in dynamic psychotherapy.

The factor analysis (Conte et al., 1996) performed on 256 psychiatric outpatients revealed the following five factors (with each factor loading at .40 or above): (a) willingness to try and understand oneself and others; (b) openness to new ideas and capacity for change; (c) access to one's feelings; (d) belief in the benefits of discussing one's problems; and (e) interest in the meaning of one's own and others behavior.

The PM scale is a 45-item scale with adequate psychometric properties (Conte et al., 1990, 1995, 1996). As an adaptation of this scale was utilized in the present study, a more detailed description of the psychometric properties is provided in the following chapter. An advantage to this scale is that the items represent a synthesis and integration of multiple definitions of PM. Although Conte et al. (1990) states that the scale was designed to measure a patient's suitability for dynamically oriented psycho-therapy, the items appear to be trans-theoretical in nature tapping into characteristics representing the PM construct.

2.1.8 Twenty Item Toronto Alexithymia Scale (TAS-20)

The absence of psychological mindedness may be subsumed under the construct of alexithymia. The construct encompasses a cluster of cognitive and affective characteristics that are virtually the obverse of several central features of PM. The construct emerged from clinical observations over several decades that certain patients respond poorly to psychoanalysis and other insight-oriented psychotherapies because of a limited ability to describe and differentiate affects (Taylor & Taylor, 1997). As noted by Taylor and Taylor, Horney (1952) described these patients as lacking emotional awareness, having a paucity of inner experiences, minimal interest in dreams, concreteness of thinking, and externalized style of living. The salient features of the alexithymia construct are thought to reflect a deficit in the cognitive processing and regulation of emotions.

The TAS-20 is a 20-item self-report measure (Bagby, Taylor & Parker, 1994). Each item is scored on a 5-point Likert-type scale. It has been shown to have strong psychometric properties (Taylor & Taylor, 1997). The authors reported good internal consistency (Cronbach's $\alpha = .81$) and test-retest reliability ($r = .77$). It consists of three factors: (a) difficulty identifying feelings, (b) difficulty describing feelings, and (c) externally oriented thinking. Although there is overlap between PM and alexithymia, there is a significant difference between them. Alexithymia is a narrower construct in that it is predominantly focused on the emotional domain; whereas, PM encompasses all three (cognitive, emotional, and behavioral) dimensions of human experience. In their concluding comments about the value of the TAS, Taylor and Taylor (1997) note:

the prospects for successful psychotherapy are greatly reduced for individuals who score high on measures of alexithymia, as such individuals are factually

oriented, unanalytical in their thinking and are unable to elaborate on inner feelings and fantasies. (p.97)

2.1.9 Videotape and Interview

2.1.9.1 The Psychological Mindedness Assessment Procedure (PMAP)

McCallum and Piper (1990) developed the PMAP, a videotape measurement of PM derived from psychoanalytic theory. These authors (1990) defined PM analytically as the ability to identify unconscious intra-psychic conflicts and relate them to a person's difficulty. They developed the PMAP to assess the unique abilities required of work within analytically oriented therapy, because they wanted to assess suitability for psychodynamic treatments. Consequently, they suggest that their measure for PM may not be applicable to therapies outside of a psychodynamic approach.

The PMAP has been found to have adequate psychometric properties (McCallum & Piper, 1990). Inter-rater reliability for this study between two judges on 20 participants, using interclass correlation, was .95 ($p = .001$). It is individually administered and requires about 15 minutes to complete. The videotape presents simulated patient-therapist scenarios to which the patient is asked to respond. Actors following scripts developed to reflect various components of therapeutic process portray the interaction. The scenarios begin with an actress-patient describing a recent event in her life to her male therapist. In the first scenario, the woman describes seeing from a distance, her former husband (a woman struggling with loss through divorce). After viewing the tape, the patient is assessed for his or her general impressions. For example, "what seems to be troubling this woman?" The PMAP differentiates nine levels of PM, with the criteria for each level reflecting basic assumptions of psychoanalytic theory. These assumptions include psychic determinism, the unconscious, unconscious conflict, inner

ambivalence, and defense mechanisms. This measure has been used in a number of studies related to assessing the relation between PM and outcome reviewed in the following section.

2.1.9.2 Projective Techniques

Wolitzky and Reuben (1974) developed a projective technique and assessed PM in accordance with their psychodynamic definition, based on therapists' subjective scoring of responses to the Thematic Apperception Test (TAT). The authors defined PM as "a tendency to understand or explain behavior in psychological terms" (p.26). Fourteen male undergraduates participated as paid volunteers. Subjects were presented with two prerecorded TAT stories told by Person A and Person B and instructed that the stories a person tells about the cards reveal something about his/her personality such as fears, attitudes, motives, and so on. Subjects were then asked to tell their impressions about the stories they had heard. A scoring system was devised based on 10 characteristics (motives, conflict, affect, defense, etc.) determined to represent PM. A judgment by two raters (undergraduate psychology majors) was made on the subject's recognition on the presence or absence of a given characteristic (e.g., conflict, "he is torn between two desires"). A higher score represented greater PM. The subjects' ratings were then compared to an expert. The measure of accuracy was the combined global judgment of the two independent raters of the degree of similarity between the subjects' and experts' ratings.

Reliability was adequate. Correlations between the two raters of total PM scores for personality descriptions were .74, .78, and .79 when compared to the expert. In a measure of internal consistency, all 10 characteristic scores correlated positively with the total PM score: The range was from .33 to .83 (mean = .60). Higher PM scores were associated with greater accuracy in personality interpretations. This use of this measure of PM was not referenced in the

literature in research involving the construct. However, an adaptation of the technique was utilized in the development of an assessment of PM for use with children and adolescents.

2.1.9.3 Assessing the Psychological Mindedness of Children and Adolescents

The measurement of psychological mindedness reviewed thus far has primarily focused on the adult population. Hatcher, Hatcher, Berlin, Okla, and Richards (1990) are the first researchers to develop a measure for assessing psychological mindedness in the child and adolescent population and approach PM from a psychodynamic orientation. As such, three lines of PM are emphasized in the development of their measure: the growing understanding of internal, individual sources of motivation; the developing ability to recognize the simultaneous presence of several, often conflicting motivations; and the awareness of the use of self-deception to protect oneself against painful self-awareness.

Their sample included 179 children, equally divided by gender, including 60 fifth-graders (mean age, 10.4 years), 60 eighth-graders (mean age, 13.6 years) and 59 12th-graders (mean age, 17.7 years). In assessing PM, two different procedures were used, one to assess PM toward others, the other toward self. Separation of assessing self and others was prompted by the idea that PM toward others is more straightforward than PM toward self, because it does not require self-reflection.

PM toward others was assessed by using two fairy tales as stimuli. Participants were read *Cinderella* and the *Emperor's New Clothes* (fairy tales were simplified one-page versions).

The story was read aloud twice . . . [and] presented in counterbalanced design—one-half heard *Cinderella* first, and one-half heard *The Emperor's New Clothes*. During the readings each child could follow the text of the fairy tales in their own booklet. If *Cinderella* was read first, the children were asked, 'What kind of person was Cinderella? Describe her.' The second question was, 'Why was Cinderella so nice to people who were mean to her? Write some reasons why she acted that way.' The third question was 'Why were the stepsisters so mean to Cinderella?' Write some reasons why they were so mean to her. (p. 68)

The answers to the questions were rated using a four category rating scale designed to identify progressions in the child's descriptions of the fairy tale characters. Responses progressed in a hierarchical fashion, the criteria for higher-level responses requiring more sophistication and complexity than those at a lower level. An example of a fourth level rating is illustrated in a participant's response to the question, "why was Cinderella so nice to people who were mean to her?" The response, "she was so shy and reserved, she was afraid of them" (p. 69). The response represents higher level, abstract concepts (interacting psychological entities were recognized; concepts of internal conflict, need for self-deception were used).

PM toward self was assessed in a two-step process.

The child is asked to write stories to two TAT-type cards. The first photograph shows an 8-10 year-old child of indeterminate gender looking at a broken guitar. The second photograph shows a mother and three small children embracing in the foreground. In the background, a man sits at the table eating. The child was asked to write a story about each one. The subjects were instructed to include a beginning, middle and end in the story, and to tell what the people in the story are thinking and feeling. The children were asked to reflect on their story and write what they felt the story might tell about themselves, and to explain the links between the story and their ideas about what the story reveals about them. (p. 69)

Participants were then rated on a six-item scale in a similar fashion to the rating scheme described above. For example, at the lowest end, the participant denied the relevance of the question, "This story does not relate to me at all" (p. 70). At the higher end, the participant's self-observation contains a complex set of motives with interactions among them, "Like the girl in the story, I am jealous of my baby sister, even though I also love her" (p. 70).

Reliability of the scales was good to moderate. Scores for the fairy tales were produced by three sets of raters. The mean inter-rater reliabilities between each score were $k=.82$ (*Cinderella*) and $k=.85$ (*Emperor*). In measuring PM toward others, reliability was established by comparing the two fairy tales tasks through correlation ($r = .79$, $p < .001$) and estimating

Cronbach's alpha (coefficient alpha=.83). Reliability of PM toward self was established by comparing mean interrater reliability ($k=.79$) for the first TAT card and ($k=.69$) for the second.

Hatcher and Hatcher's (1997) work highlights the achievement of a measurement that can reliably assess PM in this age group. It also provides a basis for thinking about some of the cognitive and emotional skills that may support and influence the development of PM. To date, the measure has not been used in other research.

2.1.10 Section Summary

The instruments reviewed above represent efforts to operationalize the construct of PM and accurately measure it. Psychological mindedness has been regarded as an important variable in psychodynamic therapy (McCallum & Piper, 1990; Tolar & Reznikoff, 1960) and more recently other theoretical approaches (Grant, 2001). Yet, the number of instruments available to measure PM is relatively small in number, most likely due to the conceptual ambiguity that has surrounded the construct.

As a result of conceptual ambiguity, there are some limitations associated with measures of PM. Hall (1992) observes that a number of the self-report measures such as the P of the CPI (Gough, 1975), the Self-Consciousness Scale (Fenigstein, 1975), and the Insight Test (Tolar & Reznikoff, 1960) have been used without any comment or attempt at justification. She contributes this shortcoming to a lack of a universally accepted model of PM leaving researchers to choose instruments consonant with their particular purposes. Different aspects of PM are emphasized depending on the author's conceptualization. For example, the Self-Consciousness Scale (Fenigstein, 1975) measures PM exclusively in relation to the self and does not consider PM in the context of relationship to others. The TAS-20 (Bagby, Taylor & Parker, 1994)

measurement of alexythymia focuses more on the emotional than cognitive aspects of PM when the prevailing view is that PM involves both (Appelbaum, 1973; Conte et al., 1996; Grant, 2001; Hall, 1992). The PMAP (McCallum & Piper, 1990) and Insight Test (Tolar & Reznikoff, 1960) emphasize psychoanalytic concepts raising the question of generalizability to other theoretical approaches.

Some of the instruments have been used frequently (PMAP, Py of the CPI Scale, PM Scale, TAS-20) whereas some have not, other than the development of the measure (Wolitzky and Reuben's projective technique, 1974; Hatcher and Hatcher's assessment of PM in children and adolescents, 1997). For the purpose of this study, the PM Scale (Conte et al., 1996) will be utilized as a measurement of the construct. Unlike other instruments, the PM Scale is not wedded specifically to a theoretical approach and defines PM broadly by synthesizing various definitions of PM in the literature.

Research involving the use of these instruments is presented in the following sections, beginning with empirical evidence regarding the relation of PM to treatment outcome.

2.1.11 Empirical Studies of Psychological Mindedness and Treatment Outcome

Although there have been variant but related definitions of PM and a limited number of assessment procedures, the literature supports PM as a clinically relevant construct evidenced by the attention it has garnered both formally and informally. McCallum and Piper (1990) maintain that the psychotherapy literature conveys a consensus regarding the relevance of the dimension of patient PM for all forms of psychodynamic therapy. Therapists often intuitively assess a patient's PM within a few psychotherapy sessions as an indicator of how he or she might benefit from the process. In this section, the empirical evidence regarding the relation of PM to

treatment outcome will be reviewed. McCallum and Piper (1990) are the primary researchers who have conducted studies in this area. Most studies have focused on the adult population with some containing a sub-sample of adolescents. The results on the relation between PM and outcome has been mixed.

An early study by Yalom et al. (1967) failed to find that PM predicted outcome in “dynamic-interactional” group therapy. Forty outpatients, ages 19-45, whose diagnostic classification was primarily characterologic or neurotic were placed in five short-term groups. Subject’s PM was assessed by both the Py Scale of the CPI (Gough, 1957) and therapists’ subjective assessments. The finding that PM did not predict treatment outcome is difficult to interpret. First, measurement of PM consisted of subjective opinion on unreported criteria, and second, a Py Scale of the CPI does not appear to adequately assess PM (Conte & Ratto, 1997; Hall, 1992).

Abramowitz and Abramowitz (1974) investigated the relationship between initial assessments of insight, using the Insight Test and group therapy outcome. Twenty-six college students (mean age = 21) were divided into either insight-oriented or non insight-oriented groups. Their results indicated that highly insightful patients improved more on measures of psychological functioning when they participated in insight-oriented therapy as opposed to supportive therapy. The highly insightful patients did no better than those with lower insight in supportive therapy. These results are promising with respect to specifying a match between patient and therapy approach; however, they should be interpreted with caution because of the small sample size. The authors also note that the failure to find a relation between PM and outcome in the non-insight group might be attributed to use of the senior investigator as the sole therapist in the study.

Piper, Joyce, Rosie, and Azim (1994) completed a study on 99 psychiatric outpatients, most of whom received a diagnosis of affective and personality disorders. Patients were treated in a day treatment setting with group therapy as the mode of intervention. The study included a small proportion of adolescents. The sample had a mean age of 33 years ($SD=9.6$, range=14-57). The PMAP (McCallum & Piper, 1990) was utilized to measure PM. It was predicted that psychological mindedness and a group process variable, “patient work,” would favorably predict treatment outcome. Patient work (i.e., willingness to explore personal contribution to a problem and helping group members explore their personal contribution to a problem) was measured by a one-page, seven-point, Likert-type scale that ranged from “very little” to “very much” created by the authors. Psychological mindedness had an independent, significant relation to improvement on several outcome variables including decrease in psychosocial symptoms, increase in social adjustment, and attainment of personalized target objectives. Although the usefulness of this study as it relates to adolescents is limited, it provides evidence for a relation between PM and outcome in a sample of clients that included a small subset of adolescents.

Piper, Rosie, Joyce, and Azim (1996) replicated these results in a day treatment setting with group therapy as the mode of intervention. The study included 120 patients with diagnostic and demographic variables similar to the previous sample (Piper et al., 1994). As in the earlier study, the sample included a small proportion of adolescents (range = 14-57) and utilized the PMAP. PM was directly related to favorable outcome on three primary factors: decrease in psychiatric symptomatology, increase in social adjustment and life satisfaction, and decrease in pathological dependency. PM was also directly related to how hard patients worked in the program.

In a subsequent study, McCallum, Piper, and O’Kelly (1997) explored the relation of PM to patient “work” and outcome in an Evening Treatment Program (ETP). The study involved 190 patients with mood and/or personality disorders participating in an intensive group psychodynamic evening treatment program. The study reported a mean age of 33 years, with a lower age range of 16 without note of the upper limit. The study investigated whether psychological mindedness was related to work (i.e., willingness to explore personal contribution to a problem and helping group members explore their personal contribution to a problem) and whether PM and work had independent contributions to outcome. The results indicated a relation between PM and work and between work and outcome, but not between PM and outcome as in the previous study.

The authors explored reasons for the inconsistency between this and the earlier results of the day treatment study (Piper et al., 1994). The authors noted that patients in the ETP all tended to improve within the same range; whereas, patients in the day treatment study (1994) had more variable degrees of improvement. They reasoned that the smaller outcome variance might account for the lack of findings in the more recent study. The authors suggest that this result might be due to the number of participants in the two programs. For example, the average daily census in the evening treatment program was quite a bit smaller than the day treatment program (25 vs. 43). Due to the smaller census, patients would have been less likely to fade into the background, increasing the likelihood that other patients would have noticed and tended to counteract such a tendency. Consequently, a more inclusive milieu may have been available for less suitable patients (lower PM patients). The authors also examined the PM level of those patients who dropped out. Of the 190 patients who started the program, 36 dropped out. A *t*-test

revealed that for this patient population, psychological mindedness was not significantly related to attrition.

Conte, Plutchik, Jung, Picard, Karusa, and Lotterman (1990) found results consistent with Piper et al. (1994) investigating the relation of PM to outcome in a group of 44 adult, affectively disordered outpatients. The PM Scale (Conte et al., 1996) was utilized in this study. Participants' pre-therapy PM scores were found to be significantly correlated with the number of psychotherapy sessions attended, increase in global functioning, and decrease in psychosocial symptoms. The results support the positive relation between PM and outcome, but are limited by the small sample size and exclusive focus on adults.

Conte et al. (1996) attempted to replicate these findings on a larger sample of 116 outpatients at the same clinic who attended at least four treatment sessions. Patients did not differ demographically or diagnostically from the earlier sample of 44 patients. As in the original study, a high level of PM at intake was significantly related to number of sessions attended. However, the prediction of a positive relation between high PM and outcome (high levels of functioning ($r=0.09$) and low levels of symptoms ($r=0.06$)) was not replicated. Potential limitations highlighted by the authors included ratings made by an independent judge and a low percentage (36%) of returned surveys. For example, the independent judges' ratings were based on material contained in the patients' charts and could be no more informed or accurate than the material. The amount of information obtained from the patients themselves in the form of self-report was also compromised because only about one-third returned their surveys.

A similar finding was reported by McCallum and Piper (1990), utilizing the PMAP, who found that PM was predictive of remaining in short-term group therapy, but failed to find significant direct relation between PM and outcome measures. Participants consisted of 109

adult outpatients who presented to an outpatient walk-in clinic. All patients were assessed as experiencing a prolonged or delayed grief reaction and most had affective and adjustment disorders. This study included a large battery of outcome indices, including interpersonal functioning, psychiatric symptomatology, self-esteem, and personalized target objectives. One possible explanation for this result is that 30% of the 109 patients who actually started treatment dropped out prematurely. Although only 14% of the high PM patients dropped out, 53% of the low PM patients did not remain in treatment. The disproportionate number of low PM patients who dropped out would affect group heterogeneity and possibly the ability to test the relation between PM and outcome adequately.

Subsequently, McCallum, Piper, and Joyce (1992) explored whether PMAP scores predict treatment attrition in short-term psychodynamic group treatment involving 16 therapy groups. Of the 109 patients who began therapy, 30.3% dropped out. Three pretreatment variables (out of 49 pretreatment variables) differentiated those who remained in treatment from those who terminated prematurely. These included low PMAP scores, severity of psychiatric symptoms, and severity of target objectives. The authors concluded that low PM patients typically dropped out because they felt confused and frustrated with the psychoanalytically oriented therapy process; whereas, high PM patients were better suited for this theoretical orientation. The results of this study should be interpreted with caution, however, because exploring 49 variables with only 109 subjects increases the statistical risk of finding significant variables by chance.

In a related study, Tasca, Balfour, Bissada, Busby, Conrad, Cameron, Colletta, Potvin-Kent, and Turpin (1999) explored whether three patient variables, PM, interpersonal problems, and chronicity of psychiatric problems, would predict completion status in an adult psychiatric

day treatment program. Of the 102 patients who entered the program, 57% completed the program and 43% did not. PM was measured via the PMAP (McCallum & Piper, 1990). Most patients had a diagnosis of affective and personality disorders.

Patients who completed treatment had significantly higher levels of PM and fewer years (chronicity) of reported psychiatric problems than non-completers. Those not completing treatment had lower levels of PM. PM accurately classified 81% of completers and 45% of non-completers. However, PM did not on its own increase the probability of classifying completers and non-completers. The PM by chronicity interaction was able to accurately classify 86% of completers and 52% of non-completers. The results suggest that those with higher number of years of psychiatric problems were more likely to complete the program if they had higher levels of PM and were more likely to drop out if they had lower levels of PM. To aid in interpretation, the authors also utilized a scatter plot with PM and chronicity on the axes and plotted regression lines for completers versus non-completers. The results indicated that completer PM scores tend to increase as patient years of psychiatric problems increased. The authors interpreted this finding to suggest that for those with more chronic problems, completion of an intensive day treatment program may require a higher level of PM. Based on this finding, PM may act as a buffer of the overall negative impact of years of psychiatric problems.

In respect to outcome, a direct relation between PM and outcome was not assessed. However, in relation to completion status and outcome, about half who completed treatment showed improvement in interpersonal functioning and decrease in depression. PM may play a role in a patient's tenacity of staying with the treatment process, leading to improvement in functioning and decreased distress. These results are consistent with earlier studies (Conte, 1996; McCallum & Piper, 1990; McCallum, Piper & Joyce, 1992; McCallum, Piper & O'Kelly,

1997) that differentiated patients' PM scores and attrition, higher PM patients tending to remain and work in treatment.

More recently, McCallum, Piper, Ogrodniczuk, and Joyce (2003) explored the relation among psychological mindedness, alexithymia, and outcome in four forms of short-term psychotherapy. Data was derived from two comparative clinical trials of interpretive (psychodynamic) versus supportive therapy. One study involved 107 patients receiving short-term group therapy for patients with complicated grief. The sample had a mean age of 43 years ($SD=10.3$, range = 19-67). The other involved 144 patients diagnosed with affective and personality disorders who received short-term individual therapy. The sample had a mean age of 34 years ($SD=9.6$, range=18-62). The authors were interested in investigating the empirical relation between PM and alexithymia, the relation that PM and alexithymia each had with treatment outcome, and the relative strength of PM and alexithymia as predictors of outcome in the four forms of therapy. Psychological mindedness was measured by the PMAP and alexithymia by the TAS-20, both described above.

An alexithymic patient is thought to lack psychological mindedness and the measurement of this construct (Bagby et al., 1994) has been utilized to demonstrate its absence. The results of this study indicated that for both trials, the association between PM and alexithymia was small and not significant and therefore empirically independent. The therapy approach (interpretive vs. supportive) did not differentially affect the relation between either predictor variable or outcome. In regard to outcome, there were significant direct relations between PM and favorable outcome and between alexithymia and favorable outcome. In the short-term group therapy and individual therapy trials, PM was respectively associated with improvement on grief symptoms and general symptoms. Regarding alexithymia, there were significant direct relations in both the short-term

group and individual therapy trials. In the group therapy trial, there was improvement of grief symptoms, general symptoms, and life satisfaction. In the short-term individual therapy trial, there was improvement on general symptoms and social adjustment.

There was also an additive effect on the joint prediction of PM, alexithymia, and outcome. In each trial, main effects were evident for both PM and alexithymia for only one of four outcome factors. For short-term group and short-term individual therapies, PM was associated with a reduction in grief symptoms and alexithymia a reduction in general symptoms. Therefore the joint prediction was investigated for only these outcomes. Significant main effects were again revealed for both trials. In the short-term group therapy trial, 13% of the variance was accounted for in improvement on grief symptoms. In the short-term individual therapy trial, 8% of the variance was accounted for in improvement on general symptoms.

The results of this study support the importance of these two patient characteristics for success in therapy. Higher levels of PM and lower levels of alexithymia were associated with benefits from the four forms of therapy. The authors comment the finding that the effect of the two variables on outcome was additive suggests that while both abilities influence patient response to therapy, their influence is virtually independent of each other. Often conceptualized as opposite sides of the same coin, these results suggest that they may be two distinct capacities. The PM patient may or may not be alexithymic. The authors speculate that PM may be a more cognitive process and alexithymia a deficit in emotional or experiential processes.

These results imply that patients most suited to psychotherapy (interpretive or supportive) are those with a high PM and low alexithymia. However, the authors also caution that the process of therapy could affect changes in low PM and high alexithymia and recommend further studies examine change in these patient characteristics over time. A number of theorists

(Appelbaum, 1973; Farber 1989; Wolitzky & Reuben, 1974) view PM as a stable characteristic, but further investigation is needed to explore this possibility.

Limitations of this study include the finding that added together both predictor variables accounted for only 13% of the outcome variance in group therapy and 8% in the individual therapy trial. Even though the two predictor variables influence patients' ability to benefit from therapy, there are other variables that also influence therapy. The authors suggest these might include other patient characteristics or aspects of the therapy process, such as the amount of "work" contributed by the patient.

In an extension of this work, McCallum, Piper, and colleagues have explored whether patient characteristics match to specific therapies. Piper, Joyce, McCallum, and Azim (1998) investigated whether quality of object relations (QOR) and PM were related to outcome in two different types of psychotherapy (interpretive and supportive). Quality of object relations refers to a person's enduring tendency to establish certain types of relationships that range along an overall dimension from primitive to mature. Mature object relations means the person enjoys equitable relationships characterized by love, tenderness, and concern for objects of both sexes. A tendency toward primitive object relations means the person reacts to perceived separation or loss of the object, or disapproval or rejection by the object with intense anxiety and affect. PM as defined in this study is the ability to identify dynamic (intrapsychic) components and relate them to a person's difficulties.

The study included 171 psychiatric outpatients, the majority of who were diagnosed with affective disorders and personality disorders. The average age of patients was 34.3 years ($SD = 9.6$, range = 18-62). Patients participated in 20 weekly individual therapy sessions. Overall, QOR was directly related to favorable outcome in interpretive therapy (six of 12 outcome

measures related to functioning) and supportive therapy (one measure of life satisfaction). PM was directly related to improvement in both therapies. One significant relation between PM and favorable outcome was found for interpretive therapy (general symptom improvement), three for supportive therapy (decreased interpersonal distress, improved behavioral functioning, and life satisfaction) and six for all patients (decreased distress, improved behavioral functioning, general symptom improvement, reduced anxiety, increased life satisfaction, decrease in maladaptive defenses). The relation between high PM and interpretive therapy had been predicted because of the assumed usefulness of PM to understanding and working with interpretations, but for supportive therapy it was not. The authors reasoned that high PM patients may have engaged in exploration of internal conflicts outside of therapy even if not encouraged to do so, or alternatively, PM may reflect a general ability to analyze conflicts and problem solve whether the conflicts are internal or external and therefore valuable to different theoretical orientations.

In a later study, Piper, McCallum, Joyce, Rosie, and Ogrodniczuk (2001) examined these patient characteristics (QOR and PM) in relation to time-limited, short-term group therapy for complicated grief. The patient sample was similar to the previous study (Piper et al., 1998). There were 139 psychiatric outpatients who were randomly assigned to either interpretive or supportive group therapy. The patients were scheduled for 90-minute sessions for 12 weeks. The average age of the patients was 43 years ($SD = 10.3$, range = 19-67).

It was predicted that PM would be directly related to favorable outcome in both studies. It was also predicted that higher levels of QOR would be associated with more favorable outcome in interpretive therapy, and lower levels of QOR would be associated with more favorable outcome in supportive therapy. The authors reasoned that patients with high QOR could better tolerate the more demanding aspects of interpretive therapy and patients with low

QOR would benefit from the more gratifying aspects of supportive therapy. Three areas of outcome were evaluated: general symptoms, grief symptoms, and life satisfaction. The results indicated that PM was directly related to favorable outcome on grief symptoms for both forms of therapy. Grief symptom improvement included reduction in intrusive thoughts, reduced avoidance, and reduction in pathological grief symptoms. The prediction of QOR also held true. High QOR patients had significantly better outcome in interpretive therapy and low QOR patients had significantly better outcome in supportive therapy.

The authors considered the findings of high PM and QOR in relation to grief symptoms particularly relevant because the goal of the groups was to assist patients in adapting to the losses of people in their lives. As in the previous study (Piper et al., 1998) the authors speculated that perhaps PM patients explored internal conflicts naturally within sessions even if they are not the focus as in interpretive sessions or perhaps outside of their sessions. Alternatively, they suggest that PM may reflect a useful general ability to examine conflicts and solve problems, whether the conflicts are internal, as emphasized and explored in interpretive therapy, or external, as emphasized and explored in supportive therapy.

2.1.12 Section Summary

In sum, the findings on the relation of PM to outcome have been mixed although there have been more studies that have demonstrated a positive relation between PM and outcome than have not. (See Table 1, next page.) Earlier studies (Abramowitz & Abramowitz, 1974; Yalom, 1967) are more difficult to interpret due to methodological issues or use of an instrument that may be questionable in its measurement of PM. Studies conducted by Conte et al. (1990, 1996) were split with the later study failing to replicate the positive relation of PM to outcome. Also of

interest in Conte's studies is the finding that higher PM patients attended more treatment sessions. McCallum et al. (1990, 1992) and Tasca et al. (1999) reported similar results finding that higher PM patients were more likely to remain in treatment even when there was no relation of higher PM to better outcome (McCallum, 1990). This would suggest that higher PM plays an indirect role in a patient's willingness to stay with the treatment process and potentially benefit from it. Moreover, a study by Tasca et al. (1999) suggests that PM may contribute to compliance with treatment attendance over time.

Tasca et al. (1999) found that patients with a higher number of years of psychiatric problems who also have higher PM were more likely to complete treatment. These researchers also found that PM scores tend to increase as patient years of psychiatric problems increase. These findings raise an interesting possibility: Does PM somehow buffer psychiatric distress and enhance coping skills? In addition to enhancing treatment attendance, PM also appears to enhance patient participation in the treatment process. Piper et al. (1996) and McCallum et al. (1997) found a significant relation between higher PM and a patient's willingness to "work" in treatment. In the Piper et al. (1996) study, higher PM was also related to better treatment outcome. In McCallum et al. (1997), higher PM was related to "work" and "work" to better outcome but there was not a direct relation of higher PM to better outcome. This might also suggest an indirect role of higher PM to enhanced outcome. Perhaps higher PM patients may tend to work harder in treatment, be more likely to complete the process, and benefit from their efforts.

Table 2-1 PM Relation to Outcome and Other Variables

First Author	Subjects (N)	Age Range	Measurement	PM Relation to Positive Outcome (Yes/No)	PM Relations to Other Variables
Yalom (1967)	40	19 – 45	CPI	No	Not Tested
Abramowitz (1974)	26	M = 21	Insight Test	Yes	Not Tested
Piper (1994)	99	14 – 57	PMAP	Yes	Not Tested
Piper (1996)	120	14 - 57	PMAP	Yes	Higher PM=Positive Relation to work
McCallum (1997)	190	13 not stated	PMAP	No	Higher PM=Positive Relation to work. Work related to positive outcome.
Conte (1990)	44	M = 36 (SD=14)	PM Scale	Yes	Higher PM=Positive relations to attendance.
Conte (1996)	116	Adult	PM Scale	No	Higher PM=Positive relations to attendance.
McCallum (1990)	109	18 – 65	PMAP	No	Higher PM=Positive relations to attendance.
Tasca (1999)	102	M = 37 (SD=9)	PMAP	Not Tested	Higher PM=Positive relations to completion.
McCallum (1998)	171	18 – 62	PMAP	Yes	Not Tested
Piper (2001)	139	19 - 67	PMAP	Yes	Not Tested

Finally, recent studies (McCallum et al., 1998, 2003; Piper et al., 2001) have demonstrated a consistent relation between higher PM and positive outcome has been demonstrated. This research group has broadened their testing of the relation to include individual therapy when most work on PM and outcome has included group therapy as the mode of treatment. The positive results add to the repertoire of approaches in which the relation has been tested. In addition, these researchers have also included therapeutic approaches (supportive) outside of psychodynamic therapy with positive results of a relation between higher PM and outcome.

2.1.13 Empirical Studies Relating PM to Personal Characteristics

One broad class of research has investigated the nature of psychological mindedness by correlating it with personality characteristics. In this section, these studies are reviewed and include personality variables, ego function, emotional well-being, and self-esteem. More recent studies have explored the relation of PM to attachment and cognitive style and are included in the review. All of these studies have utilized the Psychological Mindedness Scale (Conte et al., 1990) as a measurement of the construct.

Conte, Buckley, Picard, and Karusa (1995) explored the construct validity of the PM Scale (Conte et al., 1990) to determine if personality traits would correspond with what one would expect in a psychologically minded individual. The study utilized the Personality Profile Index (PPI; Plutchik & Conte, 1989) with a sample of 46 medical students who were receiving psychotherapy at a special personnel clinic at a university-based outpatient center. Patients were diagnosed primarily with affective, anxiety, and adjustment disorders. Eight dimensions of personality were rated: acceptance, submission, passivity, depression, rejection, aggression,

assertion, and sociability. PM scores were related to high assertiveness ($r = .57$; $p < .001$), sociability ($r = .40$; $p < .01$), low passivity ($r = -.59$; $p < .001$), and depression and conflict (r 's = $-.34$ and $-.30$, respectively; $p < .05$). Those students with high PM scores also tended not to be submissive ($r = -.27$; $p < .10$) and could be considered above average in their tendency to be accepting rather than rejecting of others (r 's = $.24$ and $-.24$, respectively; $p < .10$). These results fit well with what one might expect from a psychologically minded individual. That is, individuals who are interested in the meaning of their own and others' behavior and who might derive insight from their discussions about their problems, would tend to be sociable, assertive, and accepting of others, and being low on rejection, more open to new ideas (Conte & Ratto, 1997).

PM has been described in the psychodynamic literature as an ego function (Conte et al., 1995). One might expect that increased understanding of the behavior of oneself and others would assist adaptive and coping functions. Conte et al. (1995) explored the extent to which individual's ego functioning corresponded in a manner that would be theoretically expected with a degree of psychological mindedness. This investigation was conducted at the same outpatient clinic as the previous study, but with a sample of 192 regular clinic patients. Patients were similarly diagnosed with affective, adjustment, or anxiety disorders, but also included patients diagnosed with schizophrenia and psychoactive substance disorders. To test the relation between PM and ego functioning, the PM Scale (Conte et al., 1990) was correlated with a self-report measure of ego functions, the Self –Evaluation Questionnaire (SEQ; Conte et al., 1995). The PM scale was associated significantly and positively with three ego functions: mastery-competence ($r = .53$; $p < .001$), synthetic-integrative functioning ($r = .49$; $p = .001$), and autonomous functioning ($r = .29$; $p < .01$). Mastery-competence “reflects an individual's actual

performance in relation to his or her capacity to interact with and master the environment” (Conte et al., 1995, p. 15). Such a person might be able to synthesize internal and external data because of their openness and interest in the meaning of such data. Similarly, one who is insightful and has access to feelings would be expected to function relatively autonomously and have the potential to more effectively deal with the ambiguities of daily life. As Conte et al. (1995) observed, “a person who has a strong ego is one who may be more willing to explore dangerous psychological events” (p.16). For example, “he or she may be more willing to face embarrassment or potential shame as a consequence of disclosing personal information or to face the possibility of uncovering unacceptable impulses within himself or herself” (Conte et al., 1995, p.16). These results support the notion that high PM patients have the requisite ego functioning that would make them good candidates for psychotherapy.

A study by Truedeau and Reich (1995) compared levels of psychological mindedness with measures of mental well-being and self-consciousness. Eighty-nine students in a small liberal arts college took part in the study. PM was measured by the PM Scale (Conte et al., 1995), well-being was measured by a shortened form of the Psychological Well-Being Scale (Ryff, 1989), and self-consciousness was measured by the Private Self-Consciousness Scale (Fenigstein, Schier & Buss, 1975). Self-consciousness was defined as the act of focusing one’s cognitive reflection specifically on oneself. As predicted, the results indicated a positive linear relation between PM and mental well being ($r = .31$; $p < .01$), as well as between PM and self-consciousness ($r = .45$; $p < .01$). However, there was no positive linear relation between self-consciousness and mental well being ($r = -.03$; $p > .05$). A multiple regression analysis indicated that as PM increases, the level of mental well being increases, and the level of self-consciousness decreases. The authors interpreted these results to suggest that self-awareness and social

curiosity are good for one's mental health. However, although self-consciousness is positively correlated with PM, self-consciousness has a negative effect on mental well-being. These results suggest that just as PM may have a positive influence on mental health, excessive self-scrutiny may be deleterious to mental health. There may a point when too much inward attention and preoccupation with self is contrary to one's well-being. Overall, the results of this study would suggest that PM is associated with emotional adjustment in this sample of non-clinical participants.

For the most part, clinicians and researchers have tended to view psychologically mindedness as a positive dimension of personality. However, Farber (1989) in a study of negative consequences of PM, investigated the hypothesis that individuals with high PM suffer from two deficits, specifically, a lack of emotional responsiveness and lower self-esteem. The sample included 215 graduate students who were administered five self-report inventories. In this study, PM was measured by the Self-Consciousness Scale (Feingstein et al., 1975). Three measures assessed differing aspects of emotional expressiveness and one measured self-esteem. Results of the study indicated that highly psychologically minded individuals were not less emotionally responsive than others were; in fact, they exceeded others' scores on all measures of emotionality except one, that of verbal expressiveness. However, with respect to self-esteem, highly psychological individuals did seem to have lower self-esteem than their less psychological counterparts. Farber (1989) attributed these findings to:

a tendency of a psychologically minded person to look for hidden meanings, to refuse to accept the world at face value, and to avoid denial...even if denial would spare pain . . . making one's shortcomings easier [to see] and makes viewing the world and oneself in exclusively positive terms far more difficult. (p. 215)

Farber (1989) noted that PM “brings with it an awareness that may leave one feeling more emotionally attuned but also more aware of disturbing aspects of oneself that cannot be overcome and of possibilities in oneself that cannot be realized” (p. 216).

The tendency of the psychologically minded person to be more emotionally attuned or perhaps possessing intuitiveness to one’s own or other’s feelings has raised the question as to where such skills originate. Alvarez, Farber, and Schonbar (1998) investigated the hypothesis that increased psychological mindedness would be positively associated with adult perceptions of having grown up with rejecting or otherwise depriving or inadequate parents. They cited research that supported the idea that early family dynamics among psychotherapists, a group thought to be especially highly psychologically minded (Ford, 1963; Westen, Huebner, Boekamp, Lifton & Silverman, 1991) is marked by a relationship with a dysfunctional mother (Racusin, Abramowitz & Winter, 1981). Kohut’s (1971) theoretical writings also reflect the theme of maternal influence in the determination of career choice and development of PM, “It is the mother’s personality whose influence is predominant . . . It may lead to the development of a sensitive psychological superstructure with unusually great ability for perception and elaboration of psychological processes in others” (p.277). Park and Park (1997) also discuss this perceptual ability as it relates to personal intelligence, a concept thought to be related to PM. As defined by Gardner (1983), personal intelligence refers to information-processing capacities about psychological processes of self and others (Park & Park, 1997). Although related to PM, personal intelligence is a broader construct involving intrapersonal, interpersonal, stress management, motivational, general mood, and adaptability factors (Bar-On & Parker, 2000). Gardener reasoned that the expression of personal intelligence “is markedly vulnerable to cultural and caregiver influences, requiring appropriate life experience for full and healthy

development . . . [and a skill that] requires a history of healthy education and reinforcement during the developing years” (Park & Park, 1997, p.134).

Park and Park (1997) believe that borderline personality disorder, (BPD; DSM-IV, American Psychiatric Association, 1994) is a function of being innately gifted with respect to personal intelligence and being psychologically abused because of that same gift. In their work, they posit that infants who are highly reactive and easily distressed may be high in personal intelligence. Such infants are also hypothesized to be more depressed, anxious, and to have lower self-esteem. Complicating their lives further, the authors contend that children with high personal intelligence can be perceived as threatening by their parents, especially narcissistic mothers. The authors believe that this interaction is fertile ground for the development of BPD. These authors view BPD as a pervasive manifestation of unhealthy personal intelligence. For example, patients with BPD appear to have a heightened perceptivity of the feelings and motives of others manifested in the manipulative induction of feelings in others like those the patients themselves experience. Therefore, one point of view regarding the etiology of the perceptual and intuitive skills characteristic of individuals with high personal intelligence and perhaps high PM could be related to early negative experiences with caretakers. Alvarez et al. (1998) explored this possibility.

Alvarez et al. (1998) utilized the PM Scale (Conte, 1990) and the Parent-Child Relations Questionnaire II (PCR II; Siegelman & Roe, 1979) to test their hypothesis that PM is negatively correlated with individuals’ perceptions of parental lovingness and positively correlated with reported parental rejection. The sample included 120 college students equally divided by gender. Contrary to the prediction, the less rejecting the mother was perceived to be, the more psychologically minded the individual. In addition, for women, PM was significantly correlated

with the presence of maternal love and the absence of maternal demandingness. The authors concluded that the results lend credence to the notion that PM may be associated with good parenting experiences, specifically with mother. They suggest that PM may be learned through modeling and imitation of mother's empathic perceptions, affective responses, and behavior. Noted limitations to this study include the correlational design (thus causal relationship between PM and parenting behavior cannot be drawn) and that it is based on recollections which may make them subject to distortion.

The results of this study suggest PM relates to a felt sense of attachment security. Beitel and Cercero (2003) explored this possibility as part of an investigation of the construct validity of the PM Scale (Conte et al., 1990). The authors were interested in whether the PM Scale correlated with the NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1992), a broad transtheoretical measure of personality. They were also interested in extending the work of Alvarez et al. (1998) by examining the role of attachment security and PM.

The sample included 187 undergraduate students with an average age of 19.5 years ($SD = 3.50$). The NEO-FFI assesses five dimensions of personality: Neuroticism, Extroversion, Openness, Conscientiousness and Agreeableness. The Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was utilized to assess attachment to mother, father, and to peers. The authors predicted that PM would correlate positively with extraversion and openness and negatively with neuroticism. PM was also predicted to correlate positively with attachment to mother, father, and peers. Results indicated that PM was positively correlated with openness-to-experience ($r = .40$; $p < .01$), extraversion ($r = .37$; $p < .01$) and negatively correlated to neuroticism ($r = -.33$; $p < .01$). The attachment to peers variable was associated both moderately and positively with PM ($r = .31$; $p < .01$).

To assess the relation of PM to personality and attachment security, a standard regression analysis was conducted. The four significant predictors accounted for 31% of the variance. All three-personality variables were significant predictors of PM. Of these, openness to experience was most predictive, followed by extraversion and neuroticism. The only attachment variable that significantly predicted PM was attachment to peers. The authors speculated that the finding that neither attachment to mother and father predicted PM might be the result of the focus being on current relationships. For example, a retrospective measure of parent attachment might have been related more to PM, as was the case in the Alvarez et al. (1998) study. The overall result of this study is in line with Conte's (1995) finding that PM is related to personality variables that could be beneficial to individuals engaged in the psychotherapy process. The authors also note that the inverse association between PM and neuroticism can be interpreted to mean that PM may be associated with healthy internal models of experience.

As an extension of this work, Beitel, Ferrer, and Cecero (2004) conducted a study that explored the relation between PM and cognitive style. They interpreted the results of their earlier study (Beitel & Cecero, 2003) to suggest "that highly psychologically minded people are emotionally well adjusted, assertive, and curious to learn about themselves and their environment" (p. 569). They theorized that this profile would be associated with a cognitive style that is marked by flexibility, tolerance, and realistic thinking. As previously noted, various definitions of PM have emphasized the cognitive aspects of PM (Appelbaum, 1973; Farber, 1985; Grant, 2001; Hall, 1992; Hatcher & Hatcher, 1997), yet until recently there had been no empirical investigation of the relation between them.

Beitel et al. (2004) investigated the relation of PM to three cognitive-style variables: ambiguity tolerance (AT); locus of control (LOC); and magical thinking (MT). The authors

predicted that PM would be positively related to AT and LOC and negatively related to MT. The authors chose these variables because they have been theoretically associated with descriptions of high PM individuals. For example, the authors note that ambiguity-tolerant people are comfortable in dealing with shades of gray in life and do not rely on all or nothing thinking. They compare this to the Conte et al. (1995) description of high PM individuals as able to “reconcile or integrate discrepant or potentially contradictory attitudes, values, affects, and behaviors” (p.14). Locus of control is defined as the degree to which individuals attribute control in their life to internal or external resources (Rotter, 1966). Ryan and Cicchetti (1985) regarded patients who viewed the source of their disturbance as external to the self as being at a low point in terms of their PM as compared to those who describe the experience of problems as arising within the self. Magical thinking involves providing explanations that contradict the accepted laws of nature (Eckblad & Chapman, 1983). A high PM patient might attribute events to psychological causes, “I did it because I was angry,” where a magically minded person to supernatural causes, “the devil made me do it” (Beitel et al., 2004).

The sample included 200 undergraduate participants from an urban liberal arts college with a mean age of 26 years ($SD = 9.70$). As in the previous study, the PM Scale (Conte et al., 1990) was used to measure psychological mindedness. The cognitive style variables were measured as follows: AT by the Revised Scale for Ambiguity Tolerance (MacDonald 1970), LOC by the Locus of Control Scale (Rotter, 1966), and MT by the Magical Ideation Scale (Eckblad & Chapman, 1983). As predicted, PM was positively related to AT ($r = .17, p < .05$) and inversely related to LOC ($r = -.30, p < .01$) and MT ($r = -.30, p < .01$). The results of this study suggest a cognitive profile for PM that includes flexibility, a sense of personal agency, and tendency for realistic thinking (Beitel et al., 2004). These characteristics would likely be

beneficial to those engaged in the psychotherapy process. For example, high PM patients tended to report tolerance for ambiguity. Beitel et al. (2004) observes “Psychological processes are ambiguous because they are not directly observable and must be inferred” (p.578). It would follow that individuals interested in such processes would be better able to tolerate the ambiguity associated with them. Because the psychotherapy process requires a certain degree of integration of data, one must be aware that there are multiple data in the first place. In regard to LOC, high PM patients tend to ascribe control to themselves, rather than the environment. The authors suggest that it is likely that this internal orientation would be used to advantage by a PM minded person, for example to cultivate a sense of autonomy. The positive experience would likely increase interest in matters psychological helping to consolidate one’s internal, autonomous orientation. This internal focus would also explain why high PM patients would be less likely to engage in magical thinking. The authors conclude that high PM people tend to invoke internal psychological causes such as thoughts and feelings to explain life events.

2.1.14 Section Summary

Overall, the studies reviewed suggest that psychological mindedness is associated with healthy emotional development. A profile is drawn of a high PM individual as one who is open to experience, assertive, extraverted, accepting of others, introspective, and possessing a flexible cognitive style. Despite these positive characteristics, there is some suggestion there may be a “cost” to increased PM such as the possibility of having too much self-awareness as in Farber’s (1985) finding that higher PM patients had lower self-esteem. He suggests that the clarity of one’s self-appraisal may make it difficult to deny shortcomings. Also, on the negative side is Park and Park’s (1997) suggestion that exceptional emotional attunement (displayed by patients

with BPD) may be born of unhealthy relationships with caregivers. The two studies reviewed here (Alvarez, 1998; Beitel & Cerecero, 2003) do not lend support to this suggestion. These results are in line with the view of most authors (Bar-On & Parker, 2000) that PM is more associated with positive events than negative ones. Farber and Golden (1997) in a review of PM as a characteristic of psychotherapists summarized the advantages, which include feeling special and having an increased tolerance for the complexities of people, which can lead to becoming a more sensitive, compassionate, and genuinely forgiving person. These authors also warn of the potential downside. In their words, the highly psychological person is “wiser but sadder.”

In regard to limitations, it is noted that the primary design of the studies reviewed in this section is primarily correlational, and therefore no causal inferences can be drawn. Additionally, there are only a small number of studies that have examined the influence of early caregiving on the development of PM. More research in this area could increase understanding of environmental influences on the development of PM. Finally, most of the studies reviewed here have occurred with non-clinical samples. The generalizability of the results should be reviewed with caution because the general mental health of this population may be quite different from those individuals entering treatment.

If psychological mindedness is primarily viewed as a positive characteristic, then the development of skill could be beneficial to those wishing to increase understanding of self and others. In the following section, the evolution of psychological mindedness will be examined.

2.1.15 Evolution of Psychological Mindedness in Children and Adolescents

A secondary aim of this proposal was to examine the stability of PM within an adolescent population. As noted in the introduction, PM has been described as a “gift,” “trait,” or

“tendency” (Appelbaum, 1973; Farber, 1985; Wolitzky & Reuben, 1974), implying PM is an attribute held by some but not all individuals. The question becomes is psychological mindedness a skill that can be influenced? A number of authors have speculated that psychological mindedness is relatively stable after a person reaches adulthood (Conte & Ratto, 1997; Dollinger, 1997; Taylor & Taylor, 1997). For example, over a two-week period Conte et al. (1990) reported the test-retest reliability for a non-clinical population was $r(22) = .92, p < .001$. Also in a non-clinical population, McCallum and Piper (1990) reported a test-retest reliability coefficient as $r(13) = .76, p < .001$. However, after patients participated in an intensive evening treatment program (McCallum et al., 1997), the correlation coefficient yielded by a Pearson correlation was $r(152) = .40, p < .001$. Although the latter correlation is smaller than in the non-clinical population, it still appears to remain relatively stable. It may be possible that the smaller correlation in the clinical population reflects less motivation as a result of treatment ending. Despite these results, it may be premature to conclude the skills involved in PM are not susceptible to influence.

Most authors conceptualize PM as developing in childhood (Dollinger, 1997; Hatcher & Hatcher, 1997; Mena & Cohen, 1997). Hatcher and Hatcher (1990, 1997) are the research team that has focused most extensively on the development of PM in children and adolescents. They view PM as a complex cognitive capacity that involves the child’s growing comprehension of the motives, attitudes, and characteristics of the self and others. According to these authors, PM is built on both cognitive and emotional skills acquired during the course of development and can be seen as a term characterizing children’s ability to make sense of themselves and the world in psychological terms. The influence of these skills on the development of PM will be examined below.

New evidence suggests that children much younger than previously thought are capable of thinking psychologically about themselves and others. This promising area of investigation is known as “theory of mind.” Theory of mind research is concerned with the child’s understanding of the mind—their developing knowledge and beliefs about the mental world and mental phenomena, for example, knowledge about everyday activities such as remembering, thinking, and dreaming (Wellman, 1990). By observing others and the self, the child begins to develop a theory of mind, in other words, a theory of how others organize their conscious and unconscious mental activities that feel, perceive, will, and especially reason (Mish, 1983).

Welman (1990) provides a backdrop for the study of theory of mind in his examination of Piaget’s work. Historically, research interest in children’s understanding of the mind goes back to Piaget’s (1929) early writings. Piaget argued that mental phenomenon, because of its nonobvious nature was confusing for young children. Piaget focused on two aspects in relation to understanding of the mind: an understanding of the nature of mental entities (e.g., thoughts, dreams) and the use of psychological reasoning to explain human actions (e.g., how intentions and desires cause and explain human actions). With respect to mental entities, Piaget claimed that young children, preschoolers, were “realists” who think of mental entities as tangible and physical. For example, that dreams are objective pictures and in public view. Piaget argued that young children often incorrectly applied psychological reasoning to physical objects, and, conversely often incorrectly applied physical reasoning to human acts. Piaget’s view that children do not share adult notions of mind and instead have a non-mental perspective on events is clear in the hypothesis he offers below.

Let us imagine a being, knowing nothing of the distinction between mind and body . . . His notions of self would undoubtedly be much less clear than ours. Compared with us he would experience much less sensation of the thinking of self within him, the feeling of a being independent of the external world . . . The

psychological perceptions of such a being would be entirely different from our own. Dreams, for example, would appear to him as a disturbance breaking in from without . . . We shall try to prove that such is the case with the child. The child knows nothing of the nature of thought, even at the stage when he is being influenced by adult talk concerning “mind,” brain,” intelligence. (Piaget, p. 37)

Piaget’s view that young children had limited capacity for mental reflection has been challenged in recent years. Since the mid 1980’s there has been renewed interest in the nature and development of children’s understanding of the mind (Astington, 1993; Wellman, 1990). In general, contemporary research shows in contradiction to Piaget, that a mentalistic understanding of persons emerges rapidly in most children (Gergely, 2002). Wellman (2002) attributes the advances to interviewing methods that more carefully probe children’s judgments in answer to certain questions. For example, Piaget often came to his conclusions by asking open-ended questions such as “what are dreams?” Contemporary researchers (Astington, 1993; Wellman, 1990) utilized questions that gave children a choice between contrasting alternatives (see example below).

As described by Wellman, Cross, and Watson (2001), theory of mind is an approach to a larger topic: everyday or folk psychology—the construal of persons as psychological beings, interactors, and selves. The phrase, theory of mind, emphasizes that everyday psychology involves seeing oneself and others in terms of mental states—the desires, emotions, beliefs, intentions, and other inner experiences that result in and are manifested in human action. Because persons have certain desires and relevant beliefs, they engage in intentional acts, the success and failure of which result in various emotional reactions.

Evidence for early development of theory of mind has been demonstrated in numerous studies (Gopnik & Astington, 1988; Siegler & Beattie, 1992; Wellman, Cross & Watson, 2001; Wellman & Estes, 1986). Research in this area has focused on how, when, and in what manner

does an everyday theory of mind develop? The question has been investigated using a variety of tasks and studies that focus on the child's developing understanding, for example, conceptions of desires, emotions, beliefs, belief-desire reasoning, or psychological explanation (Astington, 1993; Wellman, 1990). In particular, researchers have focused on children's understanding of belief, especially false belief. This is because mental-state understanding requires realizing that such states may reflect reality and may manifest in overt behavior, but are nonetheless internal and mental, and therefore distinct from real-world events, situations, or behavior. A child's understanding that a person has a false belief, one whose content contradicts reality, provides evidence that children are capable of mental representation earlier in their development than previously thought (Wellman et al., 2001).

As described by Wellman (1990), the classic false belief task presents a child with the following scenario. Maxi puts his chocolate in the kitchen cupboard and leaves the room to play. While he is away (and cannot see) his mother moves the chocolate from the cupboard to a drawer. Maxi returns. Where will he look for the chocolate, in the drawer or in the cupboard? Most three-year-olds will answer in the drawer because they do not understand that Maxi has a false belief about the chocolate's location. Four- and five-year-old children often pass such tasks, judging that Maxi will search in the cupboard although the chocolate really is in the drawer. These correct answers provide evidence that the child knows that Maxi's actions depend on his beliefs rather than simply the real situation itself, because belief and reality diverge. This discovery of the mind occurs within a "belief-desire" psychology, which may be a universal or innate human framework for psychological understanding. According to Wellman (2002), this everyday psychology provides explanations and predictions of action by appeal to what the person thinks, knows, and expects, coupled with what he or she wants, intends, or hopes. Why

did Maxi go to the drawer? Because he wanted his chocolate and thought it was in the drawer. It assumes that people have desires that spur them to actions in the world, and these actions are based on beliefs about the nature of the world. Once the child develops an understanding of the representational activity of the mind, he or she can begin to predict the behavior of others based on inferences about their beliefs and desires. Pretend and deception become possible because the child understands that one can act on beliefs that are not in fact true.

As discussed by Hatcher and Hatcher (1997), these cognitive abilities form the basis for the development of psychological mindedness. Failure to develop these abilities is associated with catastrophic failure to understand the self and others. This deficit has been demonstrated in studies with autistic individuals. The theory of mind hypothesis for autism purports that the severe social disconnectedness evident in even high functioning individuals with autism is due to an impairment in their ability to construe persons in terms of their inner mental lives (Baron-Cohen, 1995). A study by Baron-Cohen, Leslie, and Firth (1985) demonstrated high-functioning children with autism who were able to reason competently about physical phenomena failed false belief tasks, whereas Down syndrome and other delayed populations did not. False-belief research with the autistic population demonstrates that individuals with this disorder lack theory of mind, are unable to imagine that others have minds of their own, and cannot recognize the subjectivity of their own minds (Astington, 1993; Baron-Cohen, 1995). Studies such as these provide support for a developmental model of theory of mind. For example, in cases of developmental delays, children from progressively older age groups gave responses that reflected a progression through the same stages and in the same sequence as the responses of younger children without developmental delays.

Research on theory of mind has focused on children's early development. However, as described by Wellman (1990), once the theory of mind capacity emerges, children complete their understanding of themselves and others with increasing sophistication. For example, by age seven, children have begun to recognize enduring traits (assertiveness, stubbornness) in themselves and others, motivational organizers that structure the person's behavior and sense of self. The child fits new information into the developing theory and continually revises it. Over time, children's understanding of themselves and others is based less in terms of external events and more in terms of internal enduring beliefs and motivations. Theory of mind research provides a framework for an individual's emerging capacity to think psychologically about the self, others, and events.

Also, relevant to the study of PM is the area of social cognition. Social cognition refers to how individuals conceptualize and reason about their social world, the people they watch and interact with, relationships with those people, the groups in which they participate, and how they reason about themselves and others (Santrock, 2001). One aspect of social cognition is the concept of social perspective taking (SPT), a construct similar to psychological mindedness. It refers to the ability to free oneself of one's own view and to recognize the thoughts, feelings, and motives of the self and others (Shantz, 1983). Similarly, PM is defined as interest in achieving psychological understanding of the self that involves understanding meaning and motivation of behavior of self and others. As described by Menna and Cohen (1997), SPT has its roots in Mead's (1934) theory, in which the ability to take another person's role is considered to be a fundamental process in socialization of the self and Piaget's (1965) theory of cognitive development in which social perspective taking arises from the ability to decenter. Decentration

refers to the ability to consider multiple perspectives of a situation. Selman (1980) applied these concepts to the social domain with the introduction of the construct of social perspective taking.

Selman (1980) found that perspective taking has stage-like properties reflecting increasing differentiation and integration of the self and others and continues to develop into adolescence and adulthood. Social perspective taking is assessed by having children and adolescents respond to dilemmas concerning conflicts with peers and authority figures. He applied this work to different areas of the social world including moral development, friendship formation, and interpersonal negotiations. Selman's (1980) work is important in understanding the development of the ability to take others' perspectives, a necessary skill in PM. It showed that children's reasoning in each social domain develops from an uncoordinated, individualistic understanding to an understanding that coordinates two perspectives, and then to an understanding that individual perspectives must be viewed in relation to a complex social system. In later work Selman and colleagues examined the role of SPT in the domain of interpersonal negotiation strategies (INS; Selman & Demorest, 1984; Selman, Beardslee, Schultz, Krupa & Podorefsky, 1986). The INS model addresses how people coordinate their understanding of others' thoughts, feelings, and motives in conjunction with their own in attempting to balance inner and interpersonal conflicts. The INS model posits that interpersonal understanding proceeds through a series of stages that reflect increasing differentiation and integration of the social perspectives of the self and others (Selman & Demorest, 1984; Selman et al., 1986). Selman argued that this understanding varies developmentally with social perspective taking becoming increasingly more sophisticated. As children become more aware of the perspectives of others, they incorporate this information into their decision-making process and produce higher-level strategies based on this new ability to coordinate perspectives.

The developmental progression begins with a simple egocentric judgement (the self's own viewpoint is the same as the others) between the ages of three and five years. This gives way to a self-reflective level between six and eight when the individual recognizes the self as a possible focus of others' perspectives. Then between nine and 15 years of age, there is a mutual perspective, which is characterized by the ability to recognize the perspective of self and other even though they are not in relation to one another. Finally, moving into adulthood, there is an understanding of a network of perspectives binding individuals into a social system (Selman et al., 1986).

What then are the implications for social perspective taking and PM? Psychological mindedness requires the ability to step outside oneself and coordinate differing views of a situation. Selman and colleagues' works (1980, 1984, 1986) provide evidence for a developmental model of how this ability becomes more sophisticated over time. For example, during adolescence, individuals further develop their ability to perceive the point of view of others and to analyze their own and others' behaviors and emotions (Selman, 1980; Selman et al., 1986). These skills provide a basis for an individual's capacity for self-observation, a key component of PM. As discussed by Habermas (1986):

social perspective-taking not only involves a veridical interpretation of thoughts and emotions of other persons, but also the development of qualitatively distinct forms of reasoning. . . It also involves a developing understanding of intrinsic psychological characteristics and capacities (in terms of SPT) of individuals, because the development of the competence for SPT, which the child can reflect upon, has implications for the child's view of what he or she as well as persons in general are able to do. (p. 770)

Whereas Selman's theory of social perspective-taking assumes that the development of self-understanding occurs at a parallel pace with the understanding of others, Hatcher et al. (1990) argue against the contention that PM towards others and the self occur simultaneously.

These researchers investigated the relations between the growth of abstract thinking in children and adolescents, self-observational abilities, and the capacity to function with PM in relationship to others. They had three groups of 60 fifth, eighth, and 12th graders complete two measures of formal operations and a new instrument they created (previously described in section two, this chapter) to evaluate PM, first toward the self and second towards others. PM was defined as “[psychological understanding involving] comprehension of the motives, attitudes, and characteristics of the self and others” (p. 308). Drawing upon Piaget’s view that formal operational thought and the capacity to introspect emerge simultaneously during adolescence (Piaget, 1969), the researchers hypothesized that a greater capacity for abstract reasoning would be associated with a greater capacity for self-understanding and for understanding others at every age level. Additionally, they assumed that capacity for PM toward the self and others would increase significantly with age. And finally, they hypothesized that no gender differences would emerge in the capacity for PM directed towards the self and others, or in the capacity for abstract reasoning. The authors found that the development of abstract reasoning skills did not directly correlate with measures of the development of PM in a simple way for either gender, although both PM and abstract thinking did significantly increase with age. While PM was shown to be a developmental concept, self-understanding and psychological understanding of others appear to follow “two separate developmental lines and different gender patterning. . . ” (p. 318). More specifically, it seems that PM towards others “begins as a skill connected with the ability to think abstractly. For girls, PM towards others becomes autonomous and connected with self-observational skills. . . but for boys it remains connected with the ability to think abstractly and remains weakly linked to self-observational skills” (p. 317). Just as Piaget demonstrated that abstract reasoning is not achieved by all adults, it appears that the ability to understand others

may be somewhat easier to attain than self-understanding. In short, not all people achieve the capacity for “full self-observation” (p. 318). On the basis of their results, Hatcher and colleagues concluded that many children and adolescents may be “ripe” for more psychologically minded interventions. In particular “high school girls may be able to work in insight-oriented modalities as well as those boys in junior high and high school who are cognitively able” (p. 322).

Also key to the construct of psychological mindedness is the child’s growing understanding of emotions. Hatcher and Hatcher (1997) underscore the importance of affective understanding in the development of PM. They cite Kennedy’s (1979) work that postulated psychological mindedness involves a two-part process including the understanding of oneself and others and the ability to tolerate painful feelings. These two lines of development are interrelated: The child’s increasing capacity to tolerate feelings both contributes to and is aided by an increased understanding of the meaning and the nature of those feelings. As the child’s ability to deal with emotion increases, he or she turns less to externalizing methods for thinking about and dealing with internal states (Kennedy, 1979). Kennedy traced three stages in this developmental line. These stages include children under age five with their limited capacity for self-observation of wishes and feelings, latency age children who have increased capacity for self-awareness but rely heavily on external factors to explain and deal with internal states, and adolescents who have increased intellectual abilities to understand the self.

The child’s growing understanding of feelings follows a developmental progression as demonstrated in the work of Harter and Budin (1987). Their research shows the child’s growing cognitive capacity to understand the experiencing of increasingly complex feelings. Harter and Budin assessed the ability to conceptualize different combinations of feelings in 126 children between ages four and 12 years divided equally by gender. They were shown a set of

photographs of same-gendered children depicting a range of positive and negative emotions. Children chose photographs of either two same or two different valence feelings, placed on boards with line drawings to facilitate the questions being asked (e.g., “how could you at the very same time have the first feeling about one thing and the second feeling about a different thing?”). Harter and Budin demonstrated that at about five years of age, children hold the belief that only one emotion can be experienced at a time, and deny the possibility of having more than one feeling. At about seven years of age, children can acknowledge having two different positive feelings toward the same target (e.g., person or situation). By nine years, children can express same-valence feelings to different targets. By age 10, children can describe having opposite valence feelings toward a single target: “I was mad at my brother for hitting me but pleased that my father gave me permission to hit him back.” Finally, at mean age 11.3 years, children are able to describe opposite-valence feelings toward a single target: “I was happy that I got a present, but mad that it wasn’t what I wanted.” Harter and Budin found that children reached these levels of emotional understanding at considerably varying ages ($SD = 1.5$ at each level) and thus cautioned clinicians to not overestimate their child patients for understanding their mixed emotions. This work is relevant to the study of PM because it shows the child’s increasing capacity to understand his or her feelings.

The emotional and cognitive skills described above form the foundation of PM and continue to evolve into adolescence. There is general consensus among researchers that, with development, an adolescent shows an increasing use of psychological and social reasoning concepts. Damon and Hart’s (1982) model describes broad developmental shifts in the focus of self-understanding. They hypothesize a gradual transition from descriptions of one’s physical self, to the active self, to the social self, to the psychological self. Harter (1988) suggests a

similar sequence, beginning with a focus on physical attributes (e.g., size, age, gender, appearance, possessions), followed by a shift to behaviors more indicative of one's actions, skills, and preferences. At higher levels of development there is a shift to more psychological dimensions, such as one's emotions (affects and moods), one's motives (intentions and attributions), and one's cognitions (attitudes and the thought process itself). Hatcher et al. (1990) summarized the evolution that occurs over time. In late childhood, there is a shift from seeing the self as a collection of physical attributes and action capacities to recognition of the difference between the outside world and the mind of the individual. At the onset of adolescence there is a global undifferentiated sense of mind. There is a sense of the mind's power to reflect on and control itself, but a lack of recognition of the complexities and contradictions in the self. In later adolescence, there is a capacity to recognize the complexities and contradictions, using increasingly complex conceptualizations of the self. The general implication is that the growing child gains a richer and more differentiated understanding of himself or herself over time drawing on cognitive capacities that are developing across a number of domains.

2.1.16 Section Summary

In summary, the cognitive and emotional skills involved in psychological mindedness follow a developmental trajectory with these skills becoming increasingly more sophisticated over time. Theory of mind research demonstrates that these skills emerge early in life and also provide a framework for how an individual begins to perceive oneself and others and to reason psychologically. Research demonstrating that autistic individuals fail to develop a theory of mind supports a genetic link to an individual's ability to construe people and events psychologically. In addition to cognitive abilities, age, level of social perspective-taking,

accretions in emotional and self-understanding all contribute to a shift toward an increasingly complex psychological mindedness. That such a shift can take place poses a challenge to the view that the ability to engage in psychologically minded activities is comparable to a special inborn talent that an individual either has or lacks. Rather, it appears that individuals may be capable of varying degrees of PM. This directly relates to one of the assumptions of this thesis: that increments in adolescent patients' PM may be influenced by participation in therapy, specifically a cognitive-behavioral treatment approach (described in the following chapter) that focuses on teaching skills that are at the foundation of psychological mindedness.

3.0 CHAPTER

3.1 METHODS

3.1.1 Introduction

This study had two purposes. The first was to explore the relation between psychological mindedness and treatment outcome in an adolescent population. The second was to investigate whether accretions in PM can be gained by participation in a treatment approach that teaches cognitive skills involved in PM.

3.1.2 Sample

Data for this study were derived from a clinical trial of three different psychotherapeutic interventions for adolescent depression (Brent, Holder, Kolko, Birmaher, Baugher, Roth, Iyengar & Johnson, 1997). Funded by the National Institute of Mental Health, Depressed Adolescent Suicide Attempters: A Clinical Trial (R01 MH46500) occurred over a five-year period beginning in 1991. David Brent, M.D., was the principal investigator. The clinical trial compared cognitive-behavioral therapy (CBT), systemic-behavior family therapy (SBFT), and non-directive supportive therapy (NST). It was predicted that patients treated with CBT and SBFT relative to patients treated with NST would show greater improvement in the prevalence

and severity of depression and suicidality. The main finding was that CBT resulted in more rapid and complete symptomatic relief of depression than either SBFT or NST.

The sample for this investigation (IRB Number: 0506080) included all available participants from the clinical trial. The participants were 107 adolescents of normal intelligence, between the ages of 13 and 18, living with at least one parent or guardian, meeting criteria for DSM-III-R (American Psychological Association, 1987) major depressive disorder (MDD), and with an intake Beck Depression Inventory ≥ 13 (BDI, Beck, Steer & Garbin, 1988). Participants were not diagnosed with psychotic, bipolar, obsessive-compulsive, and had no eating disorder, no substance abuse, or ongoing physical or sexual abuse.

Participants were recruited for the clinical trial from the Services for Teens at Risk Clinic at Western Psychiatric Institute and Clinic. Approximately one-third of the participants were recruited by an advertisement in the local newspaper, the remainder were self-referred or referred by parents or professionals. No demographic or clinical differences were observed between the participants responding to advertisements and those recruited by clinical referral. Incentives for participation included free treatment and participant payment for completion of evaluations.

Composition of the sample was 83% Caucasian, 76% female, with an average age of 15.6 years (SD=1.4). According to Hollingshead's (1975) *Four-Factor Index of Socioeconomic Status* (SES), family SES of adolescents participating in the study included the following: 8% upper class, 8% upper middle class, 29% middle class, 41% lower middle class, and 10% lower class. The percentage of adolescents living with two parents was 57% (See Table 3.1 on next page.)

Table 3-1 Demographic Characteristics of Subjects

Characteristics	CBT (N = 37)	SBFT (N = 35)	NST (N = 35)
Mean (SD) Age	15.7 (1.3)	15.4 (1.4)	15.7 (1.5)
Gender %			
Male	24.3	22.9	25.7
Female	75.7	77.1	74.3
Ethnicity%			
Caucasian	75.7	66.6	85.7
African American	13.5	11.4	8.6
Other	10.8	0.0	5.7
Mean (SD) Socio-economic Distribution, %*			
I	5.4	11.4	8.6
II	16.2	5.7	1.4
III	21.6	34.3	31.4
IV	43.2	45.7	34.3
V	13.5	2.9	14.3
Live with two parents, %	56.8	57.1	57.1
Does not live with two parents	43.2	42.9	42.9

*Demonstrated by Hollingshead (1975) *Four-factor Index of Socioeconomic Status*

3.1.3 Hypotheses

1. Adolescents rated higher in psychological mindedness as compared to adolescents rated lower in psychological mindedness will experience greater improvement in severity of depression following psychotherapy as measured on the self-rated *Beck Depression Inventory* (Beck, 1987) and level of social and psychiatric functioning as assessed on the interview rated *Children's Global Assessment Scale* (Shaffer et al., 1982).
2. Patients treated with cognitive-behavioral therapy will show a greater increase in PM as compared to systemic behavioral family therapy and nondirective supportive therapy.

3.2 DESIGN

The proposed study used a correlational design for hypothesis one and experimental design for hypothesis two with short-term longitudinal data collection. The first hypothesis explored whether higher PM was associated with greater improvement in level of depression and functioning. For this hypothesis, analysis was conducted on all subjects, taking treatment assignment into consideration. The measure of psychological mindedness was taken at the beginning of treatment. A comparison of level of depression and functioning at the beginning of treatment was made and change from beginning to end was documented. The second hypothesis explored the possibility of treatment effects on the development of PM. For this hypothesis, analysis was conducted within the specific therapy groups of CBT, SBFT, and NST. Pre- and post-measures of psychological mindedness was taken and any change from the beginning to end of treatment was documented (See Table 3.2).

Table 3-2 Timeline of Measures

Session	Pre													
	0	1	2	3	4	5	6	7	8	9	10	11	12-16	
Measure														
Beck Depression Inventory	*	*	*	*	*	*	*	*	*	*	*	*	*	
Children’s Global Assessment Schedule	*						*						*	
Psychological Mindedness Scale	*												*	

3.2.1 Randomization

Once participants had given informed consent, they were randomized to one of the three treatments: CBT, SBFT, or NST. To ensure comparability among the groups, the Begg and Iglewicz (1980) modification of the Efron biased coin toss (1971) was used balancing on sex,

number of parents in the household, and clinically significant suicidality (i.e., ideation with a plan or an attempt). Patients who made a suicide attempt were removed from the study. In addition, patients who were still seriously symptomatic at midpoint were evaluated. A clinical decision for removal was based on a failure to achieve notable improvement from intake to midpoint, resulting in a recommendation for open treatment--usually pharmacotherapy.

3.2.2 Treatment

Treatment consisted of 12 to 16 sessions provided in the same number of weeks. The three treatment conditions were similar on number of treatment hours (CBT = 12.5, SD = 3.9; SBFT = 11.7, SD = 5.1; NST = 11.6, SD = 4.3) and duration of weeks (CBT = 13.9, SD = 3.9; SBFT = 12.0, SD = 5.4; NST = 12.9, SD = 4.9). Following is an explanation of the treatment approaches utilized in this study.

CBT, developed by Beck Rush, Shaw, and Emery (1979), and adapted in the study for adolescents, aims to identify false beliefs, unhealthy moods, and problematic behaviors. A major premise of CBT is that depression results from a patient's negative or inaccurate interpretation of his or her experiences. CBT seeks to relieve emotional distress and other symptoms of depression by focusing on the patient's misinterpretations, self-defeating behaviors, and helping the patient observe the relation between their negative thoughts and feelings. The therapist and patient on an on-going basis carry out analysis of maladaptive cognitive-behavioral sequences. CBT incorporates educational methods such as structure, clarification, feedback, reflection, practice, and homework. The teaching component also involves therapist modeling of new ways of thinking and approaching problems. There is emphasis on therapist and patient collaboration with therapist acting as a guide.

The second treatment, SBFT, as applied in this study is a combination of two treatment approaches. The first phase of treatment is drawn from Alexander and Parson's (1982) Functional Family Therapy (FFT) in which the therapist joins the family in a series of reframing maneuvers in order to obtain maximal engagement and commitment from each family member. After engagement and clarification of the problems and goals, the treatment moves to the behavioral component as developed by Robin and Foster (1989). According to Robin and colleagues the etiology of family conflict involving adolescents relates to deficient communication, poor problem solving skills, and structural difficulties (e.g., inappropriate alliances, such as a weak parental alliance and a strong-child alliance). During this phase of treatment, the therapist focuses on socialization to the treatment model, positive practice both in session and at home, and a commitment on the part of all family members to self-monitor and positive practice.

The third treatment, NST, is a treatment well suited to adolescents because of its non-directive and non-threatening nature, and its use of empathic feedback. The main goals of NST are to establish, maintain, and build rapport, provide support, and to provide a supportive empathic adult to whom the patient can ventilate (Strupp & Binder, 1984). The therapist encourages the patient to monitor his/her feelings, to learn to identify them and get in touch with them, and to share them with the therapist. The therapist refrains from giving advice or making interpretations, but instead, resorts to reflective listening, exhortations and statements of support, clarification, and provision of accurate empathy.

3.2.3 Procedures

Adolescents participating in this investigation were asked to complete self-reports as part of a battery of measures used in the clinical trial. Participants received a bound booklet of nine measures assessing a variety of areas at assessment, the sixth, and final 12th session of treatment. Participants also completed a measure of depression at each treatment session. For a complete description, see Brent et al. (1997). Participants completed the booklet at home between therapy sessions, returning it the following week. For the purposes of this investigation, analyses were limited to two measures: psychological mindedness and depression. Assessment of level of functioning was made by an independent, master's-level clinician as part of a clinical interview conducted separately with the parent and the adolescent. Interviews were conducted at the same intervals described above. The parent and adolescent each received \$50 for completion of the final interview and the booklet of measures.

Of the 107 subjects who entered the study, 101 (94%) completed a PM Scale at the beginning of treatment and 88 (82%) at the final session. At intake, 107 (100%) had an assessment of functioning and measure of depression. At mid point (six weeks), 94 (88%) had an assessment of functioning and measure of depression. Ninety-nine (93%) received a final assessment of functioning and 97 (91%) measure of depression.

3.2.4 Measures

3.2.4.1 Psychological Mindedness

The *Psychological Mindedness Scale* (Conte, Ratto & Karusu, 1996) is a recently revised measure of psychological mindedness designed to measure a patient's suitability for dynamically

oriented psychotherapy and to predict other variables related to psychotherapy outcome. This 45-item scale is a modified version of a 65-item scale used by Lotterman (1979) in a pilot study. The original scale consisted of 45 self-report items and 20 items that comprised a multiple-choice questionnaire completed after reading two clinical vignettes. The present PM Scale contains only the 45 self-report items, some of which were revised or reworded. The PM Scale assesses both self-understanding and an interest in the motivation and behavior of others. Examples of items include “I often find myself thinking about what made me act in a certain way,” “I’ve never found that talking to other people about my worries helps much,” and “I am curious about the reasons people behave as they do.”

Items are responded to on a 4-point scale ranging from 1 (strongly agree) to 4 (strongly disagree). The PM Scale yields a score from 45 to 180. Based on unpublished data from 313 psychiatric outpatients collected by Conte, a score of 123, 131, and 142 represent the 25th, 52nd, and 76th percentiles respectively (Conte, personal communication, April 3rd, 2000). Conte and Ratto (1997) reported content validity in the original scale was determined by asking five experienced clinicians to judge whether the items adequately covered a representative sample of the conceptual domain as they understood it clinically and as it is described in the literature. They agreed that it did. They further agreed that if endorsed, 24 of the items loaded positively for PM whereas 21 loaded negatively. These latter items are reverse scored. A total PM score is obtained by summing the scores for all items.

Reliability for the scale has been promising. Conte et al. (1990) reported good internal consistency (coefficient alpha = .86) based on the data of 69 adult psychiatric outpatients. The coefficient alpha was recomputed on the data of an additional 250 outpatients and again showed good internal consistency for this population (.87). Test-retest reliability over a two-week period

for a sample of 22 normal adults was .92 indicating good stability (Conte, Ratto, Clutz & Karusa, 1993).

A study of 44 psychiatric outpatients provided preliminary evidence for the predictive validity of the PM scale. Their pre-therapy PM scores were found to be significantly correlated with the number of psychotherapy sessions attended with an increase in global functioning and a decrease in psychosocial functioning. However, in a later study by Conte et al. (1996), these findings did not replicate with the exception of attendance to treatment. These investigators acknowledge the need for further work in this area.

There is good evidence for the construct validity of the PM Scale. Evidence for divergent validity of the PM Scale has been established by Bagby, Taylor and Parker (1994). In an investigation of the psychometric properties of their scale for alexithymia, they found significant negative correlations between it and the PM scale, as well as between psychological mindedness and each of their scale's three factors, defined as difficulty identifying feelings, difficulty describing feelings, and externally oriented thinking. The alexithymic state was characterized (Moore & Fine, 1990) by "poorly differentiated and poorly verbalized affects that do not serve the signal function adequately (do not communicate effectively)" (p.11). These findings suggest the PM Scale is measuring the converse of the concept of alexithymia.

In addition, a factor analysis (Conte et al., 1996) was performed on 256 psychiatric outpatients and revealed the following five factors (with each item loading .40 or above): (a) willingness to try to understand oneself and others; (b) openness to new ideas and capacity for change; (c) access to one's feelings; (d) belief in the benefits of discussing one's problems; and (e) interest in the meaning of one's own and others' behavior.

In the clinical trial the PM Scale was adapted for use with adolescents. A total of 12 items were deleted due to lack of relevance to the adolescent population (Kolko, personal communication, May 5th 2000). The reduced version yields a score from 33 to 132. Examples of items include “I think that people who are mentally ill often have problems which began in their childhood,” “At work, if someone suggested a different way of doing a job that might be better, I’d give it a try,” and “I think that no matter how hard you try, you’ll never really understand what makes people tick.” A factor analysis was conducted by this researcher on the reduced version of the PM Scale (refer to Appendix A) using the principal components method with orthogonal (Varimax) rotation. The scales of 88 study participants served as the database. There was good internal consistency at baseline (coefficient alpha = .84) and at post measurement (coefficient alpha = .81). A total of four of Conte et al.’s (1996) five factors were retained accounting for 43% of the variance. These items had factor loadings greater than .35. They were, in order: (a) interest in the meaning of one’s behavior and that of others; (b) access to feelings; (c) willingness to try and understand oneself and others; and (d) openness to new ideas and capacity for change. The following coefficient alpha’s were reported for the individual factors: interest (.78), access (.67), willingness (.80), and openness (.64).

In addition, correlations were run between the PM total score and the factors and yielded the following: interest ($r = .70$), access ($r = .75$), willingness ($r = .72$) and openness ($r = .61$).

The PM Scale is easy to read and understand making it suitable for adolescents. This measure also appears to have the best content validity in terms of both published discussions of the construct and representation and synthesis of the multiple definitions of PM. Because PM was not the main variable of investigation in the clinical trial, a self-report format was selected because of convenience and the ability to measure a patient characteristic that may have some

bearing on treatment outcome. For instance, patients high in PM may reap more benefit from treatment because this characteristic places them at an advantage in the treatment process.

3.2.4.2 Depression

The *Beck Depression Inventory* (Beck, 1987) was used to assess improvement in depression (refer to Appendix B). The BDI is a self-administered inventory designed to assess depression in adolescents and adults between the ages of 13 and 80. The BDI consists of 21 items scored on a scale from 0-5. Adding all scores yields a total depression score, which is then interpreted according to a depression severity scale. A score of 16 and above (Beck, 1987) designates moderate to severe depression. The BDI is estimated to be written at the fifth-grade level. The BDI has been used for both clinical and research purposes. When used clinically, it measures the extent of depressive symptoms. It is not, however, a diagnostic tool.

Reliability and validity for the BDI have been the focus of many studies. A study by Barrera and Garrison-Jones (1988) using the BDI with 65 adolescent inpatients diagnosed with Major Depressive Disorder found a high internal consistency reliability ($r = .86$). Validity for this sample was assessed by correlating the BDI with the depression items on the *Child Assessment Schedule* (CAS, Hodges, McKnew, Cyrtyrn, Stern & Kline, 1982) yielding a significant relation ($r = .49, p < .001$). These authors also reported a high internal consistency reliability for 49 high school students with no clinical diagnosis ($r = .90$), and a significant correlation ($r = .73, p < .001$) with CAS depression scores.

Teri (1982) also assessed reliability of the BDI using a high school sample of 645 students. She reported a coefficient alpha for reliability of $r = .87$ indicating high internal consistency. Teri concluded that the BDI appears to be a reliable and useful measure for high school students. Clinical diagnosis was not a factor in this study.

Beck (1988) conducted a meta analysis with data from 25 years of evaluation of the BDI across all populations. He reported that internal consistency estimates yielded a mean coefficient alpha of $r = .86$ for psychiatric patients and $r = .81$ for non-psychiatric subjects. The concurrent validities of the BDI with respect to clinical diagnosis and the *Hamilton Psychiatric Rating Scale for Depression* (HRSD, Hamilton, 1960) were also reported to be high (r 's = .72 and .73, respectively, for psychiatric patients; r 's = .60 and .74, respectively, for non-psychiatric individuals).

3.2.4.3 Level of Functioning

The *Children's Global Assessment Scale* (CGAS, Shaffer et al., 1982) was used to determine the degree of change in functioning over the course of treatment (refer to Appendix C). The CGAS is an adaptation of the *Global Assessment Scale* (GAS) developed by Endicott, Spitzer, and Fleiss (1976) and is designed to reflect the lowest level of functioning for a child or adolescent within a specified time period. The CGAS consists of 10 categories that describe different levels of psychosocial functioning on a continuum of health. As with the GAS, its values range from 1, representing the most functionally impaired child to 100, representing the healthiest. Scores above 70 on the CGAS indicate normal functioning. The instrument contains behaviorally oriented descriptions at each anchor point that depict behaviors and life situations applicable to children four through 16 years of age. Specific behavioral descriptions include "stays at home ...or in bed all day," "school refusal," or "inappropriate social skills" (p.129). For example, an individual who displayed transient symptoms (e.g., mild anxiety) but functioned relatively well in all areas might be rated anywhere from 81 to 90. In contrast, an individual who was unable to function in almost all areas (e.g., stays in bed all day) would receive a rating on the low end of the 21 to 30 point category.

With regard to the psychometric properties of the CGAS, Shaffer et al. (1982) found the following. Using written case vignettes, interrater reliability (intraclass correlation coefficient) was .84 denoting excellent agreement beyond chance. Temporal stability (six-month interval) was .85.

Shaffer et al. (1982) also studied the discriminant validity of the measure between outpatient and inpatient adolescents and found that it was able to discriminate significantly at the .001 level. This indicates it is sensitive to levels of impairment between these two groups.

Concurrent validity estimates were also generated between the *Conners Abbreviated Parent Checklist* (1969) and the CGAS utilizing outpatients. They found a modest correlation ($r = -.25$) in the predicted direction.

In summary, adequate reliability and validity estimates have been demonstrated for this measure.

4.0 CHAPTER

4.1 RESULTS

This chapter presents the main findings of the study. First, baseline clinical measures are presented and compared across the three treatment groups. Second, correlations between baseline demographic and clinical measures with PM total and PM factors are presented. Then, an examination of protocol deviations and their relation to PM total and factor scores are reported. Finally, the results of the primary and secondary hypotheses are presented.

4.1.1 Baseline Clinical Measures of Subjects

Subjects in the three treatment groups, CBT, SBFT and NST were similar with respect to age, gender, race, socioeconomic status, and family constellation (see Table 3.1, p. 69). At baseline, the groups were also similar across clinical variables including level of depression, level of hopelessness, duration of depression, age of onset of depression, level of psychosocial functioning, and intelligence with no significant differences across groups (see Table 4.1). For example, they were depressed on average a duration of two months, had an average age of onset of depression of 14.4 years and a mean IQ of 108. Although not significantly different across groups, subjects in the NST group had the highest reported hopelessness score and patients in the SBFT had the lowest reported functioning reported on the CGAS.

The entire sample composition was 76% female, 24% male, and there were 83% Caucasian and 17% minority participants. The mean age was 15 years of age (range = 12.8 – 18.0).

Table 4-1 Baseline Clinical Measures of Subjects (N = 107)

Characteristics	CBT (N = 37)	SBFT (N = 35)	NST (N = 35)	ddf*	F- value	p
Mean (SD) BDI	24.3 (8.1)	22.6(8.1)	25.4 (8.1)	104	1.14	.32
Mean (SD) BHS	11.5 (5.8)	10.3 (5.7)	13.2 (4.9)	101	2.42	.09
Mean (SD)** duration of depression, months	2.0 (1.0)	1.9 (.86)	2.0 (1.0)	104	.20	.81
Mean (SD) age of onset of depression, years	14.5 (1.7)	14.4 (1.5)	14.4 (2.3)	104	.02	.98
CGAS	58.8 (8.3)	54.4 (8.0)	56.3 (8.5)	104	2.49	.08
IQ	109.9 (11.4)	108.9 (11.9)	106.7 (11.0)	104	.71	.49

*ddf indicates denominator degrees of freedom, numerator degrees of freedom = 2

**Natural log transformation prior to statistical comparison

4.1.2 Correlation of Baseline Demographic and Clinical Measures with PM Total and Factors

To examine relations between clinical variables and PM and to identify potential confounds to the results, baseline demographic and clinical measures were correlated with PM total and factor scores (see Table 5). The four factors included 1) interest in the meaning and motivation of one's behavior and that of others, 2) willingness to try and understand oneself and others, 3) access to feelings, and 4) openness to new ideas and capacity for change. A decision was made to include factor scores in the analysis to examine specific components of PM that may have influenced the results. Overall, gender, SES, duration of depression, social and psychiatric functioning, and verbal IQ were not associated with the total PM score. Increased

age and a later age onset of depression were associated with a higher PM total score. A higher level of depression and hopelessness were associated with a lower PM total score.

In regard to the factors, there was no association with any of the demographic or clinical characteristics and the interest factor. A higher level of depression and hopelessness were associated with decreased access to feelings. Therefore, less depression and hopelessness equated to increased access to feelings. Five characteristics were associated with the willingness factor. They included SES and a later age of onset of depression with increased willingness and minority race, increased depression and higher hopelessness with decreased willingness. Finally, three characteristics were associated with the openness factor. Increased age and a later age of onset of depression were associated with increased openness and minority race was associated with decreased openness. Interpretation of these results will be discussed in the following chapter.

It is important to point out that the correlation coefficients that are correlated with PM total on selected characteristics while statistically significant are not especially large in size. With the exception of one variable (willingness = $-.39$ on BDI) the correlation coefficients are $.3$ or less indicating that any one variable is accounting for less than 10% of the variance on total PM. For example, the positive correlation between PM total and age appears to be a function of the openness factor. The value on openness ($.26$) accounts for less than 10% of the total PM score. Only two characteristics had PM total scores that correlated with more than one factor. They included BDI and BHS where PM total appears to be a function of the access and willingness factors.

Table 4-2 Correlation of Baseline Demographic and Clinical Measures with PM Total and Factors (N = 101)

Characteristics	PM Total (N = 101)	PM Interest (N = 98)	PM Access (N = 97)	PM Willingness (N = 98)	PM Openness (N = 99)
Age	.21*	.09	.08	.13	.26**
Gender	.05	.04	-.01	.04	.05
Race	.22*	-.07	-.01	-.24*	-.23*
SES	-.09	-.01	.08	.25*	-.04
BDI	-.23*	.07	-.30**	-.39**	-.15
BHS	-.25**	-.07	-.26**	-.28**	-.18
Duration of depression, months	-.17	-.09	-.09	-.14	-.12
Age, onset of depression, years	.24*	.10	.13	.20*	.25*
CGAS	.06	.10	.08	-.00	.02
IQ	.18	.12	.02	.27	.10

*p<.05

**p<.01

4.1.3 Protocol Deviations

There was complete baseline PM data available on 101 subjects defined as having no more than three items left incomplete on the PM Scale. Of the 107 subjects randomly assigned to treatment, four never entered the protocol, eight dropped out of treatment, seven were removed and placed in open treatment (median time to removal six sessions, range 1-11 sessions), and 10 were found at various stages of the protocol to have had preexisting exclusionary conditions that were undetected at the time of randomization (e.g., substance abuse, obsessive-compulsive disorder). Altogether protocol deviations were similar across groups (7 of

37 subjects left CBT, 11 of 35 subjects left SBFT, and 11 of 35 subjects left NST) with respect to drop out, removal for ineligibility, or removal for clinical reasons. Although not significant, at baseline a *t*-test revealed a lower PM total score ($M = 77.7$, $SD = 13.1$) for protocol deviators (mostly comprised of dropouts) compared to those who completed the study ($M = 82.4$, $SD = 9.9$, $t = 1.92$, $df = 99$, $p = .058$). In the protocol deviator group, a *t*-test also revealed a lower score on willingness to try and understand oneself and others ($M = 14.5$, $SD = 4.2$) compared to those who completed ($M = 16.2$, $SD = 3.3$), $t = 1.99$, $df = 96$, $p = .050$).

4.1.4 Data Analysis

The data were analyzed using a general linear mixed model approach. The mixed model approach (Gibbons, 1993) is applicable to longitudinal data sets that contain missing observations with the assumption that the data is missing at random (MAR). MAR or ignorable missing is when the missing data is dependent only on observed data and not on unobserved (Schafer, 2002). Use of the mixed model allows for flexibility not found in standard repeated measures of analyses of variance. It uses all available data on each subject, is not affected by randomly missing data and can flexibly model time effects (Guerguieva & Kris, 2005). A logarithmic transformation of time for BDI was imposed to linearize the data. This allowed the use of generalized linear models to analyze the data.

4.1.5 Effects of Psychological Mindedness on Treatment Outcome

Hypothesis one predicted that the baseline PM by time interaction would be significant such that higher PM would result in greater improvement in depression and functioning over time. A repeated measures, mixed-effect model with PM as a continuous variable, time, and

baseline PM by time interactions were run. The dependent variable was BDI or CGAS score at each of the visits. Data analysis focused on the complete sample controlling for treatment group by including it as a fixed effect. For this hypothesis, with a sample of 101, there was sufficient power of 80% to detect a significant but small effect size of at least Cohen $f = .10$ in the interaction term between PM and time at two tailed alpha of .05 (Cohen, 1988).

There was no evidence to support the primary hypothesis, that higher PM would result in improved outcomes for depression and functioning over time (PM total by time interaction, BDI, ($F(1, 96.1) = 1.59, p = .21$); CGAS, ($F(2, 175) = 0.11, p = .90$), (see Table 6). In addition, each of the factor scores was examined in relation to treatment outcome. The factor willingness to try and understand oneself and others was found to have a significant interaction with time on BDI ($F = 4.54, df = 1, 92.6, p = .036$). The parameter estimate indicates that increased willingness has a decreased slope in BDI, such that increased willingness resulted in worse outcome on BDI.

Table 4-3 Mixed Model Results for Hypothesis 1

Effect	BDI ¹			CGAS		
	F	Df	p	F	Df	p
PM total as covariate	3.55	1,97.8	.0625	1,21	1,97	.2750
Treatment	1.45	2,97.1	.2407	2.86	2,97	.0624
Week*	9.20	1,96.6	.0031	0.71	2,175	.4917
Treatment by Week	3.45	2,93.7	.0357	0.39	4,175	.8160
PM tot by Week	1.59	1,96.1	.2097	0.11	2,175	.8972

¹Satterthwaite degrees of freedom -- BDI indicates Beck Depression Inventory
CGAS indicates Child Global Assessment Scale -- *Week log transformed for BDI

As seen in the Brent et al. (1997) paper there was an overall treatment by time interaction, BDI ($F(2, 93.7) = 3.45, p = .036$) as well as a significant decline over time in the self-rated depressive symptoms ($F(1, 96.6) = 9.20, p = .003$), (see Table 4.3). For the CGAS, there was not a significant overall treatment by time interaction ($F(4, 175) = 0.39, p = .82$) or significant increase in functioning over time ($F(2, 175) = 0.71, p = .49$) (see Table 4.3).

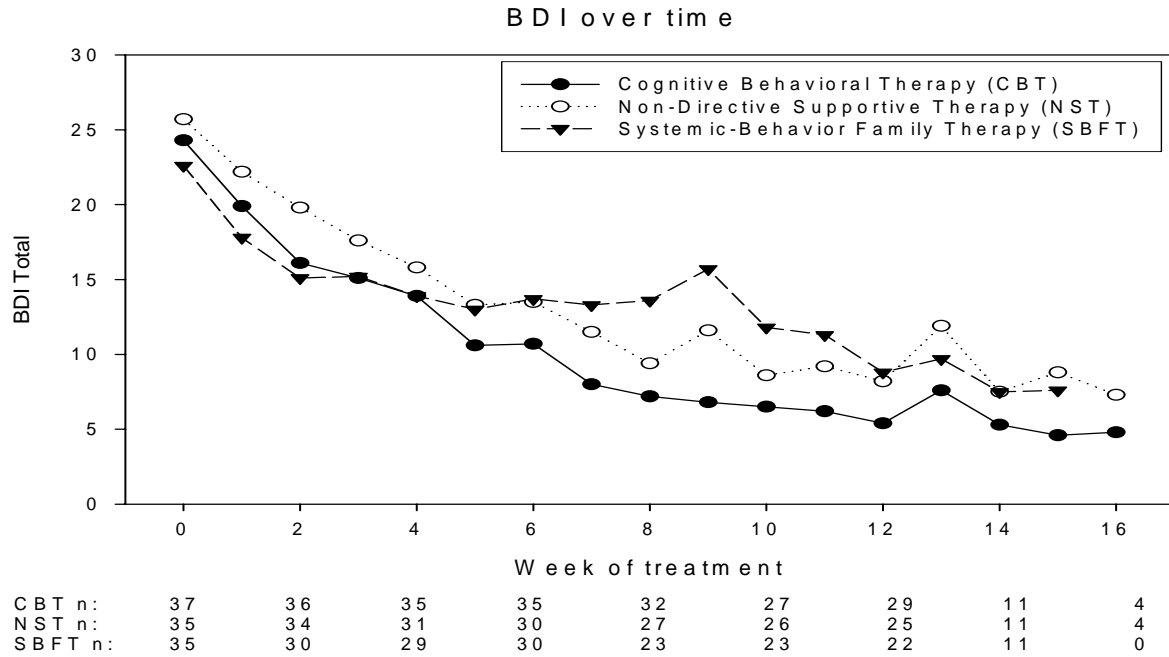


Figure 4-1 BDI Overtime

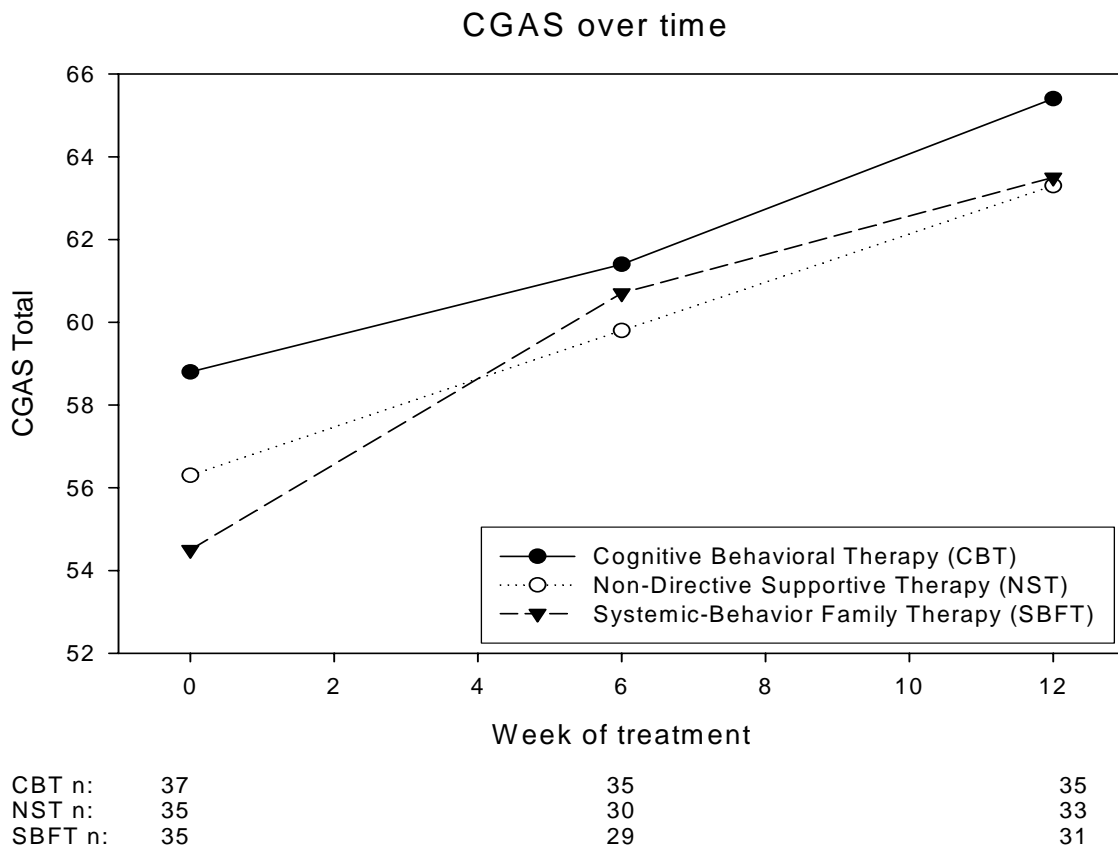


Figure 4-2CGAS Overtime

In a fully parameterized model, a three-way interaction between PM, time and treatment was suggested ($F = 2.88$, $df = 2,93.7$, $p = .061$). Therefore, to further explore this finding of the effect of PM on BDI, outcome was stratified by low PM (< 80) and high PM (≥ 80), (see Figure 4.3). In the low PM group there was not a significant treatment by time interaction, however in the high PM group there was a significant treatment by time interaction. Upon visual inspection of the curves in the low PM group what begins as a consistent decline in self-reported depressive symptoms for NST and SBFT gives way to an erratic pattern of spikes in depression over time before converging at the end of treatment. Although there was not a significant interaction in the lower PM group, patients in the CBT cell demonstrated a more consistent decline in their depressive symptoms from beginning to end compared to patients in SBFT and NST.

Upon inspection of the high PM group it is observed that the pattern for the three treatments interchanges over time. The interaction between group treatment and time was statistically significant ($F = 4.81$, $df = 2,53.7$, $p = .012$). CBT had more rapid improvement ($t = 3.09$, $df = 53.9$, $p = .004$) resulting in a lower BDI score at the end of treatment compared to SBFT, but not NST.

The test of the primary hypothesis was further investigated by stratifying on baseline severity. The mixed model was run separately for subjects with baseline severity of BDI < 21 and for subjects BDI ≥ 21 . PM was not found to be a significant covariate of BDI, nor was there a significant PM by time interaction ($F=0.39$, $df=1,30.6$, $p=.54$; $F= 0.00$, $df=1,60.5$, $p=.99$ for low and high severity, respectively).

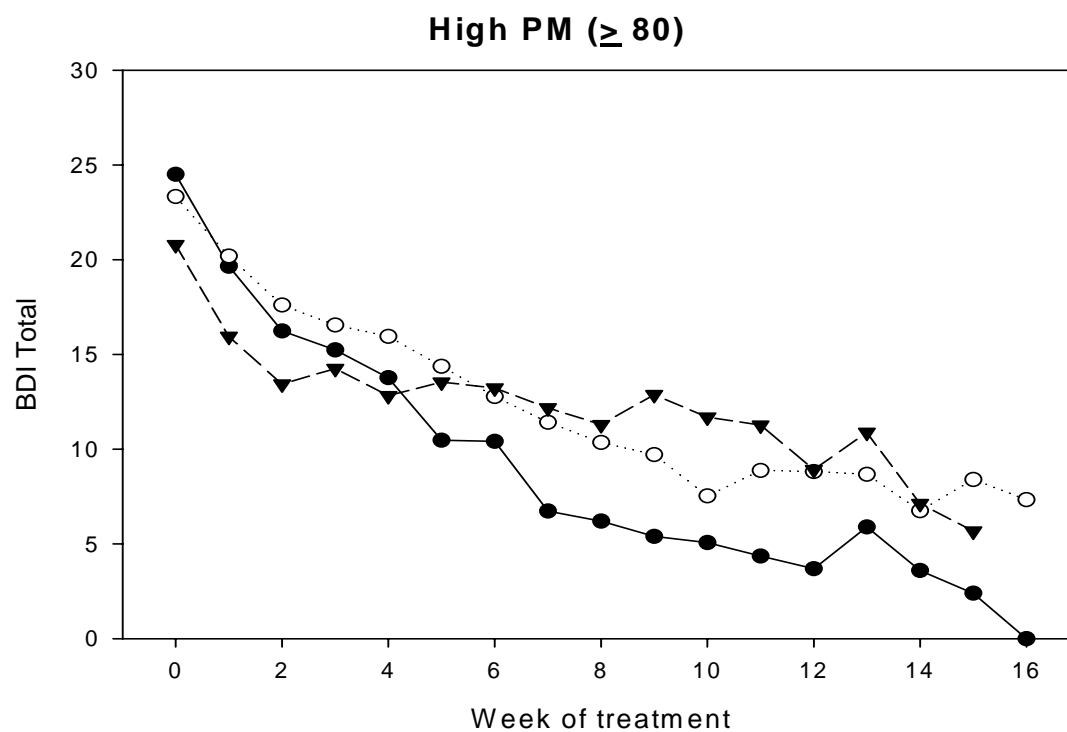
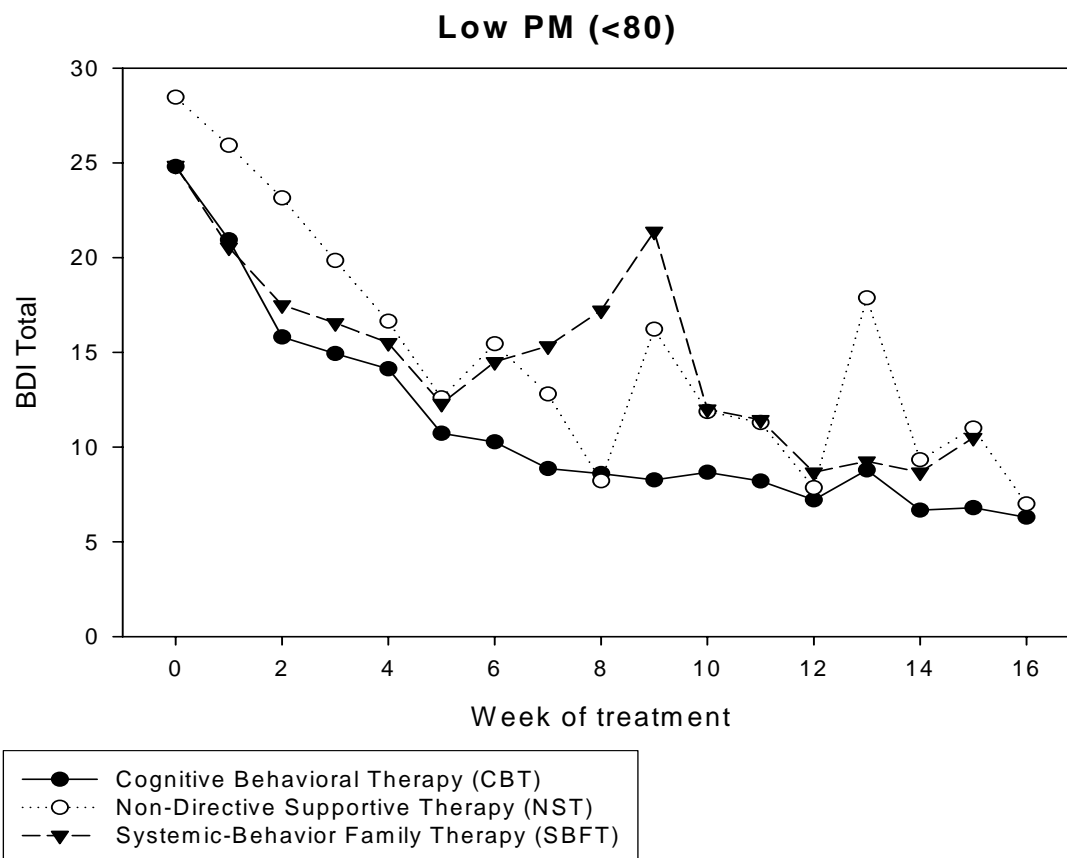


Figure 4-3 Low PM and High PM

Because PM was found to be correlated with several clinical measures (age, race, BDI, BHS, age of onset) selected covariates were entered into the primary model. Age of onset was not a significant covariate ($F(1, 95) = 0.26, p = .61$) and BHS was a significant covariate ($F(1, 95.3) = 21.57, p = .0001$). However, controlling for these covariates did not alter the effects as stated above.

In a survival analysis approach, the effect of baseline PM on outcome of time to recovery was examined. Recovery was defined as having 3 or more BDI scores of <9 . The effect of psychological mindedness on time to recovery was examined in a Cox regression (Shoukri & Pause, 1999) stratified over treatment. PM was not found to be a significant covariate in time to recovery ($X^2=0.04, df=1, p=.84$). The Cox regression was repeated on each of the factors and none were found to be significant covariates on time to recovery.

4.1.6 Effect of Treatment on Psychological Mindedness

The second hypothesis tested whether adolescents treated with cognitive-behavioral therapy would show a greater increase in PM as compared to systemic behavioral family therapy and nondirective supportive therapy. For this hypothesis, there was sufficient power of 80% to detect a significant difference in change of PM between the treatment groups ($n = 34$ each) with a medium effect size of Cohen $d = .68$ at two tailed alpha of .05 (Cohen, 1988).

The change of PM over treatment was examined with a repeated measure, mixed-effect model at pre- and post- treatment. The model included a treatment group by time interaction. It was predicted that a significant interaction would occur indicating that PM changed over time differently by treatment such that subjects in CBT treatment would have greater improvement than subjects in SBFT or NST. This analysis did not support the hypothesis; there was no significant interaction of treatment by time ($F(2, 80) = 0.27, p = .77$). However, there was an

improvement in PM over time across treatments ($F(1, 80) = 11.20, p < .002$). Examination of the factors indicated that the increase in PM was also significantly seen in the factors willingness to try and understand oneself and others ($F(1, 77) = 5.99, p = .017$) and access to feelings ($F(1, 77) = 15.39, p < .001$), (see Table 4.4, Figure 4.4 & 4.5).

Table 4-4 Hypotheses 2 Means (SD) and Mixed Model Results

	CBT		NST		SBFT		Treatment	Time	Treatment x Time
	Time 1	Time 2	Time 1	Time 2	Time 1	Time 2	F df	F df	F df
PM Total	80.0 (10.0)	85.8 (10.0)	81.8 (10.9)	87.4 (6.5)	81.9 (12.1)	85.4 (10.0)	0.44 2,103	11.20** 1,80	0.27 2,80
PM Interest	28.6 (5.1)	29.7 (4.1)	29.1 (4.6)	30.5 (2.8)	28.6 (4.5)	29.1 (2.8)	0.84 2,102	2.59 1,72	0.20 2,72
PM Willingness	15.3 (3.4)	17.1 (3.7)	15.9 (3.7)	17.3 (2.5)	16.1 (3.8)	16.6 (3.2)	0.25 2,102	5.99* 1,77	0.65 2,77
PM Access	19.0 (3.5)	21.5 (2.8)	19.2 (4.2)	21.6 (2.8)	19.8 (3.9)	21.1 (3.3)	0.05 2,102	15.39*** 1,71	0.47 2,71
PM Openness	12.9 (3.1)	13.5 (3.0)	12.8 (3.2)	13.9 (2.6)	13.0 (2.9)	13.9 (3.0)	0.13 2,102	3.77 1,77	0.11 2,77

[†]Between-within degrees of freedom

* p<.05

** p<.01

*** p<.001

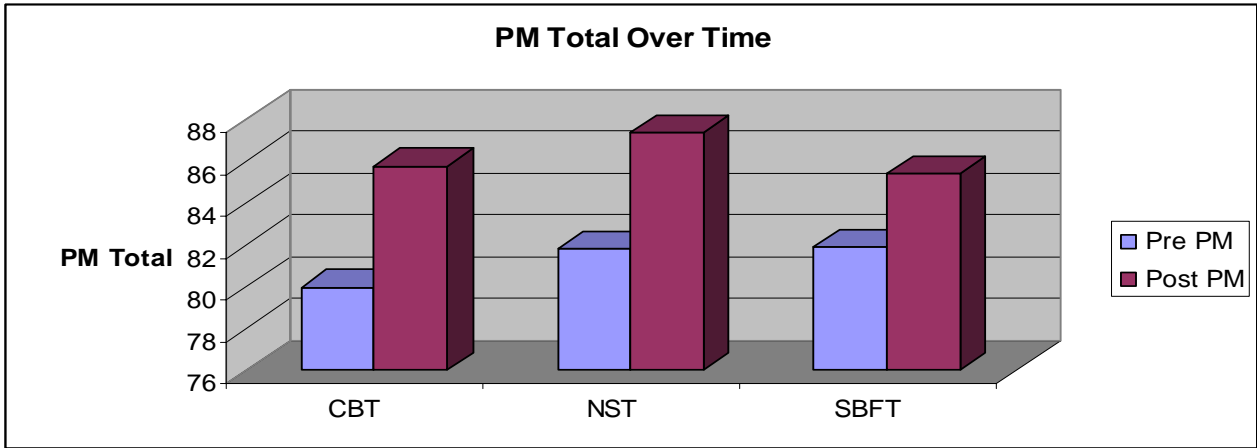


Figure 4-4 PM Total Overtime

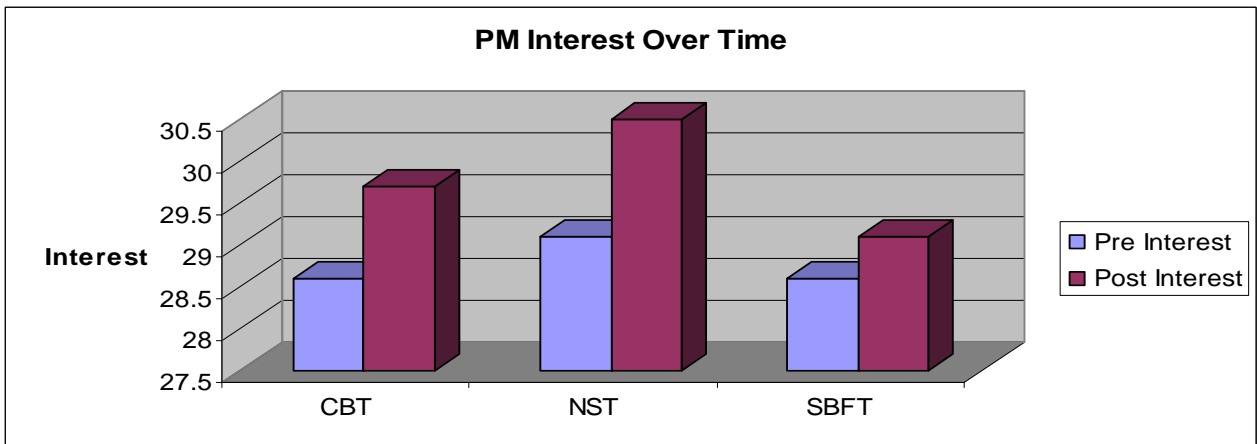


Figure 4-5 PM Interest Overtime

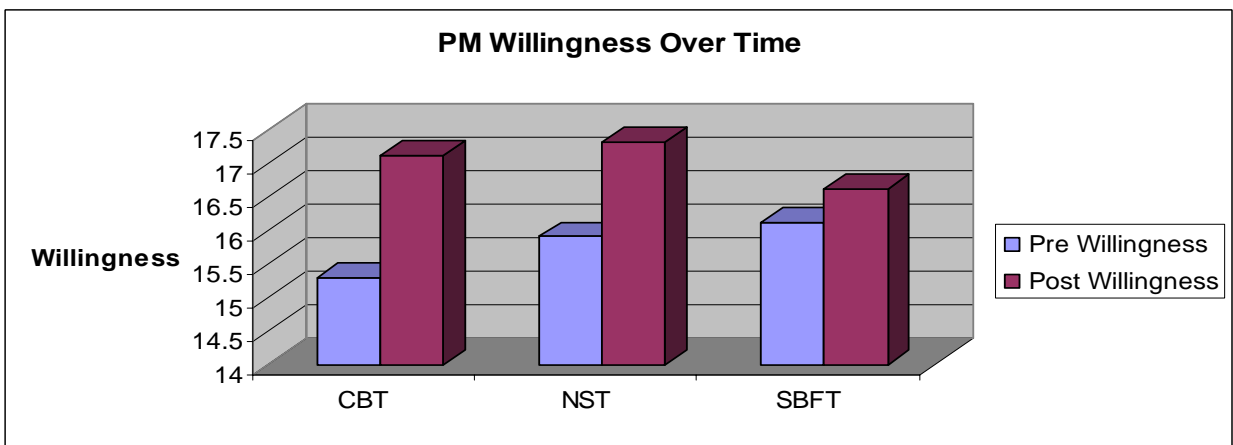


Figure 4-6 PM Willingness Overtime

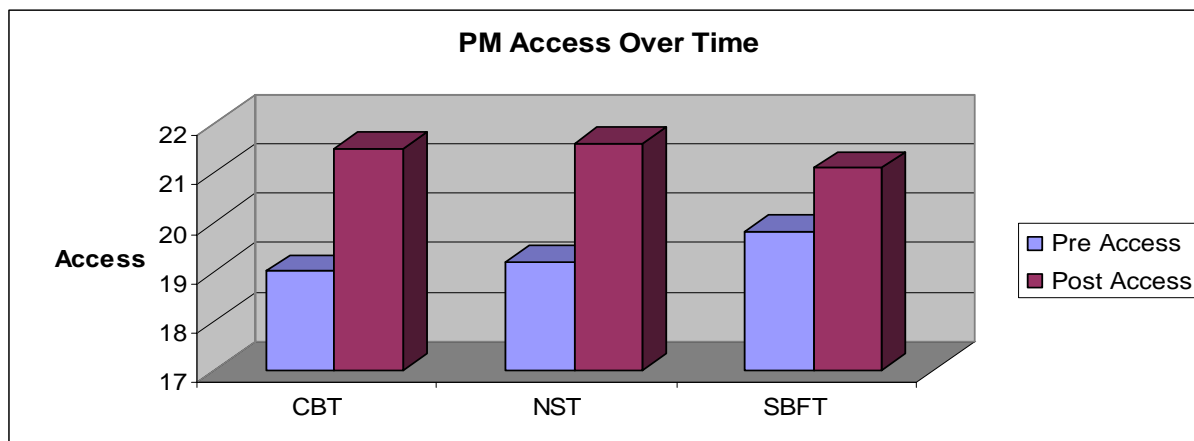


Figure 4-7 PM Access Overtime

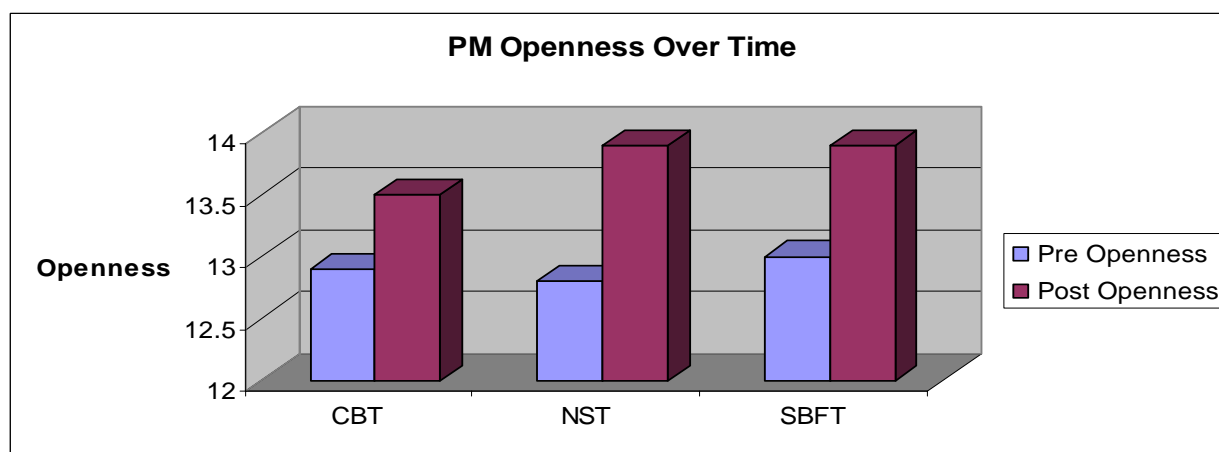


Figure 4-8 PM Openness Overtime

5.0 CHAPTER

5.1 DISCUSSION

Hypothesis 1. Adolescents rating higher in psychological mindedness as compared to adolescents rating lower in psychological mindedness will experience greater improvement in severity of depression as measured on the self-rated *Beck Depression Inventory* (Beck, 1987) and level of social and psychiatric functioning as assessed on the interview rated *Children's Global Assessment Scale* (Shaffer et al., 1982). Contrary to the hypothesis, higher PM scores were not predictive of improvement in depression or functioning across the whole sample. An examination of the individual PM factors indicated that one factor, willingness to try and understand oneself and others, had an inverse relation with depression such that increased willingness resulted in worse outcome on BDI. This finding is curious and at first glance appears to be counterintuitive. However, as previously noted, higher PM has been related to attendance (Conte et al., 1990, 1996; McCallum & Piper, 1990) and completion of treatment (Tasca et al., 1999). The inverse relation between increased willingness and worse outcome on the BDI might be explained by a patient's willingness to stay in treatment even when they are not improving. This would suggest that the willingness component of PM is related to tenacity, an aspect of PM that may promote attendance.

The finding in the primary hypothesis that higher PM did not result in improved outcome is consistent with other studies that failed to find a positive relation (Conte et al., 1996;

McCallum & Piper, 1990, 1997). They are inconsistent however, with studies that found PM to be related to favorable outcome (Abramowitz, 1974; Conte et al., 1990; McCallum et al., 2003; Piper et al., 1994, 1996, 2001). McCallum, Piper, and Conte, who have studied PM most extensively, have all experienced conflicting results in their study of PM and outcome. Conte et al. (1996) after failing to replicate a previous finding of higher PM to improved outcome commented, “perhaps PM has no direct relation to outcome and is, in fact, an intervening variable between predictors and outcome” (p. 257). Similarly, McCallum et al. (1997) expressed concern about the relation of PMAP scores and treatment outcome in psychodynamic therapy “the failure to predict the pre-post outcome factors suggests that in addition to psychological mindedness and psychodynamic work there are other factors that influence patient’s response to treatment” (p.312). Certainly, both statements have merit. McCallum et al. (1997) reported results that indicated PM was related to a process variable “patient work” and “patient work” was related to better outcome, but failed to find a direct relation between PM and outcome. In later work McCallum et al. (1998) and Piper et al. (2001) began to explore other characteristics in addition to PM such as quality of object relations (QOR) and were successful at demonstrating a positive relation of QOR to outcome. These studies, as have most that have evaluated PM and its relation to outcome have done so in the context of psychodynamic therapies. As a result, our understanding of this relation may yet be limited. Indeed, McCallum et al. (1998) and Piper et al. (1997) expressed surprise when higher PM was found to be related to positive outcome in supportive therapy (included in the study to test the prediction that low QOR patients would benefit from this form of treatment). Their prediction that high PM patients would have positive outcome in interpretive therapy was expected because of the assumed usefulness of PM to understanding and working with interpretations, but for supportive therapy it was not. This

prompted the authors to comment that high PM patients may have engaged in exploration of internal conflicts outside of therapy even if not encouraged to do so, or alternatively, PM may reflect a general ability to analyze conflicts and problem solve whether the conflicts are internal, as emphasized and explored in interpretive therapy or external as emphasized and explored in supportive therapy.

More recently, Grant (2001) has called for exploring psychological mindedness in the context of other theoretical approaches. He believes PM is best conceptualized as a form of metacognition, “a predisposition to engage in acts of affective and intellectual inquiry into how and why oneself and /or others behave, think, and feel the way that they do” (p. 12). He sees CBT as being a good match for the study of PM because the self-monitoring and self-evaluation of one’s cognitions, emotions, and behaviors is central to its success. The present study provided an opportunity to test PM within the context of CBT as well as other treatment approaches. Although the primary hypothesis was not supported, the manner in which patients’ depression responded within the low and high PM groups within different treatments suggests that the relation is not simple and straightforward (Figure 4.3, p. 88). In the low PM group, the consistent decline of depressive symptoms over time in the CBT group as compared to the up and down spikes of depression in the SBFT and NST groups suggests that CBT may compensate for a lack of PM skill. In low PM patients CBT appears to act as a stabilizing force in regard to a more consistent pattern in relief of depression. Low PM patients are thought to lack skills of insight, access to emotions (Conte, 1997; Hall, 1992; McCallum & Piper, 1997; Bagby, Taylor & Parker, 1994), and to be generally poorer candidates for psychotherapy. Patients who lack these skills may substitute skills taught in CBT such as self-monitoring and evaluating cognitions,

emotions and behaviors resulting in improved insight and therefore avoiding the ups and downs as observed in the low PM SBFT and NST groups (Figure 4.3, p. 88).

In contrast, patients in the high PM group (Figure 4.3, p. 88) did not demonstrate the wide variability or spikes in depression in SBFT and NST that are evident in the low PM group. Whereas the pattern for all three treatments changed across time, overall it suggests that high PM patients utilize this ability to process experiences in a manner that buffers depression and is beneficial to one's well being. This would support McCallum (1998) and Piper's (2001) comment that PM may be a general skill that enables individuals to reflect on internal processes or external events. However, this does not preclude the possibility that specific therapies may be a good match for highly psychologically minded individuals. In this study, patients in the high PM CBT group had a more rapid decline in relief of their depressive symptoms as compared to patients in the SBFT, but not NST groups. Higher PM patients who have a natural disposition toward these cognitive and emotional skills may be at an advantage in utilizing CBT techniques resulting in relief of their depressive symptoms.

To date, there is not a definitive answer as to whether higher PM contributes to better outcome. Studies are divided in their results and overall the number of studies that has examined the topic is limited. The conflicting results may be accounted for in a number of ways. The operational definitions are diverse as are the instruments used to measure the construct. The focus has been almost entirely on PM's utility in regard to psychodynamic therapies, and there has been limited exploration in other treatment approaches. Studies that have examined PM have varied in terms of duration and few articulate treatment standards, making it difficult to judge the quality of the treatment in which PM was tested. In the present study, a number of these issues were attended to. For example, because the evaluation of PM was done within the

context of a clinical trial, a rigorous process was in place to ensure treatment integrity including the use of treatment manuals and ongoing evaluation by expert treatment consultants. Additionally, each treatment occurred over the same duration. These steps helped ensure that the treatment in which PM was tested was a fair test of that treatment over the same duration of time.

The results suggest it would be premature to conclude that patients should be evaluated on the basis of their PM level as to their potential to benefit from any specific form of psychotherapy. Improvement is noted across all treatments. There is an encouraging pattern of a more rapid decline in depressive symptoms in both the low and high PM group suggesting CBT may serve a compensatory function in the absence of cognitive and emotional skills such as those in low PM patients and an enhancement in the presence of such skills such as those in high PM patients in the relief of depressive symptoms. Further research would be necessary to substantiate such a possibility before any conclusions could be drawn.

Hypothesis 2. Patients treated with cognitive-behavioral therapy will show a greater increase in PM as compared to systemic behavioral family therapy and nondirective supportive therapy. This hypothesis was not confirmed. Patients in CBT did not show a greater increase in PM over the other two treatments. The prediction was based on the rationale that because adolescents are in the midst of continuing maturation of their cognitive and emotional skills, PM might be more malleable to change. Specifically it was predicted that CBT would have greater influence on increasing PM because skills taught in CBT are similar to those involved in PM. In evaluating these results there is no basis for comparison to other studies as this is the first examination of the stability of PM in an exclusively adolescent population. The prevailing view regarding PM is that it is a relatively stable characteristic not subject to influence once an individual reaches adulthood (Conte & Ratto, 1997; Dollinger, 1997; McCallum &

Piper; Taylor & Taylor, 1997). Appelbaum (1973) compared it to a musical talent when questioning whether an individual can be trained to become more psychologically minded. He answered “probably not, to the extent that it is dependent upon constitutional or other early developmental structures, just as high musical proficiency cannot be taught to those without basic musical abilities” (p. 44).

Although CBT had no greater influence than NST or SBFT, PM did increase over time across treatments. In regard to components of PM, patients also increased in their willingness and ability to access feelings. The results suggest that the act of participation in treatment may serve as a stimulus to increase PM. It may be possible to teach skills that are involved in PM such as those in CBT, but this does not necessarily translate to an especially enhanced level of PM.

The increase in PM across treatments may be due to nothing more than the adolescents’ continuing maturation of cognitive and emotional skills. Unlike adults, they may have not yet reached their full potential for development of PM. For many adolescents treatment is a novel experience and their first opportunity to exercise the type of skills involved in PM. They sit down with a therapist on a weekly basis where the attention is focused on some aspect of their lives, either internal or external. The experience itself may stimulate the adolescent’s cognitive and emotional processes in a way that promotes growth in PM as observed in Figures 4.4 and 4.5 (p. 92-93). There were significant increases in willingness to try and understand oneself and others and access to feelings. Unfortunately, this growth of psychological mindedness did not translate to improved outcome. Whether or not an increase in PM is permanent or is maintained only during the period treatment is occurring is unknown, but would be an interesting area for further study to determine if gains are upheld.

5.1.1 Patient Characteristics and PM

In evaluating the correlations between PM and patient characteristics it is noted that the correlation coefficients are small in size (Table 4.2, p. 83). Gender, SES, duration of depression, social and psychiatric functioning, and IQ were unremarkable in regard to their influence on PM (Table 4.2, p. 83). Most, but not all of the characteristics that correlate with PM total are congruent with what might be expected. Of the demographic characteristics examined, older age was associated with higher PM and minority race associated with lower PM. The relation of age and higher PM would be expected, as PM is comprised of complex cognitive and emotional skills that follow a developmental progression (Hatcher & Hatcher, 1997). These abilities increase with age, as was the case in this sample. In contrast, the finding that minority race was associated with lower PM was unexpected. On this variable, PM total was correlated with less willingness and openness suggesting that minority race patients PM might be affected by components of PM that may be related to issues of trust and risk. It is also possible that lower scores on these components of PM may reflect different cultural values and meaning. However, any conclusion regarding race and level of PM would be premature as the sample was comprised of less than 17% minority race patients. A larger sample would be needed to explore this question.

Regarding the clinical variables, increased levels of depression and increased hopelessness were associated with lower PM. This finding might also be expected as depression and hopelessness are strongly related to cognitive processes (Beck, 1987) as is PM and it is not surprising that higher levels of these characteristics might negatively impact level of PM. Both of these characteristics have been associated with prediction of poorer outcome in clinical studies (Brent, Kolko, Birmaher, Baugher, Bridge, Roth & Holder, 1998; Clark, Hops, Lewinsohn &

Williams, 1992; Jayson, Wood, Kroll, Fraser & Harrington, 1998). It may be that increased levels of depression and hopelessness interfere and impede the development of PM. This possibility is further supported by the positive correlation between a later age of onset of depression and higher PM. Being depression free for a longer period might allow an individual's development of PM to reach a fuller potential. IQ was not correlated with PM. This would suggest that intelligence is not related to the ability to be psychologically minded. It supports the notion that PM is a unique characteristic involving both cognitive and emotional processes.

Regarding the factors of PM, willingness had the highest number of correlations with the demographic and clinical characteristics with a total of five (race, SES, BDI, BHS, age of onset). This was followed by openness with a total of three (age, race, age of onset). This might suggest that for adolescents, PM is driven by factors related to motivation and receptivity. Both of these variables relate to engagement, a key ingredient in psychotherapy. In the past 14 years there has been increased emphasis on the importance of motivation to the change process. Prochaska, DiClemente and Norcross (1992) introduced a stages-of-change model depicting a sequence of stages through which people progress as they initiate and maintain behavior change. The model has been applied in the field of substance abuse as researchers attempt to identify pretreatment variables that may positively influence treatment outcome. The Stages of Change Readiness and Treatment and Eagerness Scale (SOCRATES, Miller & Tonigan, 1996) has been utilized to measure mental state and overt behaviors that assess motivation and has predicted positive treatment outcome (decreased alcohol consumption and higher motivation to abstain from alcohol). Similarly, a measure of psychological mindedness in adolescents may provide a gauge of an individual's motivation for change. Issues with motivation may then be more directly addressed prior to treatment possibly leading to increased engagement as the process evolves.

As there has been minor focus on PM in the adolescent population, the associations noted here between PM and personal characteristics provide a fuller picture of the potential influences on its development.

5.1.2 Protocol Deviations

A number of studies have demonstrated that higher PM individuals have increased attendance (Conte et al., 1990, 1996; McCallum & Piper, 1990). Moreover, higher PM has also been associated with a greater probability of completing treatment (Tasca et.al., 1999). An examination of patients who completed treatment in the present study indicated a lower PM total score for protocol deviators ($M = 77.7$) compared to those who completed ($M = 82.4$). Although not significant ($p = 0.58$) the results were in the expected direction. One factor, willingness, distinguished between protocol deviators ($M = 14.5$) and those who completed ($M = 16.2$, $p = .050$). The results may indicate a higher level of motivation as reflected in the willingness factor as noted above and tenacity in terms of remaining with a supportive process that may be ultimately beneficial over time. This would be especially useful information in working with adolescents who are often forced into treatment against their will. Any interpretation of these results should be viewed cautiously, however, because some participants were removed from the clinical trial due to a later discovery of preexisting exclusionary criteria and clinical reasons that required they move into open treatment.

5.1.3 Implications and Summary

This study evaluated whether a higher level of PM at baseline would translate to better outcome. It also explored whether the cognitive and emotional skills taught in CBT might

enhance an individual's level of PM over other treatment approaches that do not directly teach these skills. The goal was to inform whether adolescents high in PM would make better candidates for psychotherapy as compared to those who might benefit from a medication trial or a skill building approach not as reliant on the type of cognitive and emotional skills involved in PM. For the first time, PM was also evaluated in the context of a completely adolescent population.

The results support Hatcher & Hatcher's (1997) contention that PM is a complex capacity involving cognitive and emotional skills. As such the primary finding that higher PM was no better at improving outcome than lower PM cannot be accepted as unequivocal. Rather, PM may interact with different treatment approaches in a unique manner as the patterns of depression in low and high PM patients in this study suggests. In certain disorders such as depression, high PM patients may be a particularly good match for CBT when combined together may achieve a more rapid decline in symptoms. Future research should test PM in relation to CBT, NST, SBFT and other treatments to explore whether any specific combinations of treatment and low or high PM has beneficial effects to outcome.

Future research would also profit from a more objective definition and measurement that is not driven by a specific theoretical orientation. The overwhelming focus on the testing of PM in regard to its value in the psychodynamic therapies has slowed down our knowledge of the impact of PM on treatment. The definition utilized in the present study is trans-theoretical and is not wedded to any particular treatment approach. It was derived from the PM Scale and allowed for a reasonable evaluation of PM in alternative treatment approaches. Grant (2001) has proposed a model that focuses on the metacognitive processes involved in PM, however this work has yet to translate to a measurement instrument. A measure that focuses on the cognitive

and emotional processes involved in PM rather than being designed to test an individual's potential capacity of benefiting from a specific type of therapy would have more universal relevance.

There are special challenges in the assessment of PM in children and adolescents. For example, the use of only one method of assessing PM in this population may decrease validity. In this study, a self-report format was employed. A number of issues are noted as possible issues of compromise with this type of assessment. They include issues of compliance and anxiety about revealing secrets or making mistakes (Birlerson, Hudson, Buchanon, & Wolff, 1987) or limitations in comprehension of items and reading ability (Kaminer, Feinstein & Seifer, 1995). Yet another difficulty noted by Birelson et al. (1987) is that although they are easier to use and less likely to cause fatigue, or oppositional responses, the use of forced-choice categories may simplify answers or distort the information obtained along particular choice sets. Adolescents are at a developmental stage where self-consciousness is heightened (Santrock, 2001) resulting in a particular sensitivity to how they are perceived. Including outside sources such as the therapist, peer, or parent in the assessment of PM will broaden the context in which the PM is assessed and enhance validity. McCallum and Piper (1990) developed the PMAP, utilizing a videotape method that measures subject response to particular scenarios in their assessment of PM. At the time of its development they noted this type of format was appealing and in step with current technology. Similarly, the development of future measures of PM might involve the use of computers, a device that is familiar and comfortable for adolescents. PM is generally considered by most researchers to be a skill. Perhaps the cognitive and emotional skills involved in PM might be assessed through the development of a computer game that focuses on contextual issues of relevance to adolescence. Attention might also focus on isolating behavioral

manifestations of PM. Adolescents' beliefs may not always be reflected in their words, but more accurately defined in their actions. For example, do they seek out a friend or a parent when distressed (openness)? Is emotion congruent with a feeling state and apparent to others (access to feelings)? Do they put into practice behaviors they desire to change (willingness)?

A secondary analysis examined if PM can be enhanced through participation in the context of CBT. There was no evidence to suggest CBT was any better than SBFT or NST at enhancing PM skill even when the skills are reflective of those involved in the construct. It appears that individuals have a predisposition toward varying levels of PM and the emphasis on pretherapy assessment of the construct is reasonable as to the level of PM to which an individual is capable. The gains made across all three treatments may support that the skill is stimulated by participation in a therapy process and for adolescents there remains a continuing maturation of their cognitive and emotional skills. As there has been virtually no study of the stability of PM within an exclusively adolescent population it would be important to validate these results in additional studies. The level of PM increased significantly across all three treatments in a relatively short period of time (12-16 sessions). It may be possible that over a longer period of time, PM might be enhanced by involvement in a therapeutic approach such as CBT that focuses on skills reflective of PM or NST that focuses on feelings. Additionally, the correlations between PM and the clinical variables such that greater depression and hopelessness were associated with lower PM scores might suggest clinical variables impede the full expression of PM. It would be important to include other diagnostic groups and a non-clinical population to test this possibility.

Overall, the results of this study suggest that as a patient characteristic, psychological mindedness does play a role in an individual's experience in the psychotherapy process.

Although neither hypothesis was supported, it appears that PM may interact with different treatment approaches in a unique manner. Based on the results of this study there is no reason to categorize adolescents on the basis of their PM level as to their potential to benefit from psychotherapy. Rather, further study of how different treatments interact with PM is needed to enhance our understanding of the utility of this construct in relation to the psychotherapy process.

APPENDIX A

PSYCHOLOGICAL MINDEDNESS SCALE

Thirty-three statements are listed below. Each statement is followed by four phrases: **Strongly agree; Mostly agree; Mostly disagree; Strongly disagree**

Please place a check (☐) next to the phrase which best describes how you feel about each.

	Strongly Agree	Mostly Agree	Mostly Disagree	Strongly Disagree
1. I would be willing to talk about my personal problems if I thought it might help me or a member of my family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I often find myself thinking about what made me act in a certain way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. When you have problems, talking about them with other people just makes them worse.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Often, even though I know that I'm having an emotion. I don't know what it is.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Letting off steam by talking to someone about your problems often makes you feel a lot better.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. If a good friend of mine suddenly started to insult me, my first reaction might be to try to understand why he or she was so angry.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. It would not be difficult for me to talk about personal problems with people such as doctors, teachers, guidance counselors, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I've never found that talking to other people about my worries helps much.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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|--|--------------------------|--------------------------|--------------------------|--------------------------|
| 9. I am curious about the reasons people behave as they do. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. I get annoyed when people ask me questions about how I'm feeling or whether something's bothering me. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Often I don't know what I'm feeling. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. I've found that when I talk about my problems to someone else, I come up with ways to solve them that I hadn't thought of before. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. It is important to be open and honest when you talk about your troubles with someone you trust. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. People sometimes say that I act as if I'm having a certain emotion (anger for example) when I am unaware of it. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Talking about your worries to another person helps you to understand your problems better. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Usually, if I feel an emotion, I can identify it and name it (e.g., "I am feeling sad/happy/ nervous, etc."). | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. It would be very difficult for me to discuss upsetting or embarrassing aspects of my personal life with people even if I trust them. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. I get annoyed when people give me advice about changing the way I do things. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. I think that when a person has disturbing or strange thoughts, it is often because they are very anxious and upset. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. If someone gave me advice about how to do something better, I'd try it out. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 21. I get annoyed when people give me advice about changing the way I do things. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 22. There are some things in my life that I would not discuss with anyone. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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|---|--------------------------|--------------------------|--------------------------|--------------------------|
| 23. Fear of embarrassment of failure doesn't stop me from trying something new. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 24. I find that once I develop a habit, it is hard to change, even if I know there is another way of doing things that might be better. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. I'm usually in touch with my feelings. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 26. There are certain problems which I could not discuss outside my immediate family. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 27. I frequently don't want to delve too deeply into what I'm feeling. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 28. I like to do things the way I've done them in the past. I don't like to try to change my behavior much. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 29. I am willing to change old habits to try a new way of doing things. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 30. I like to try new things even if it involves taking risks. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 31. When you have troubles, talking about them to someone else just makes you more confused. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 32. I really enjoy trying to figure other people out. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 33. When I learn a new way of doing something, I like to try it out to see if it would work better than I had been doing before. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

APPENDIX B

BECK DEPRESSION INVENTORY

Circle the answer to each question which best describes how you've been feeling recently. If more than one applies, use the higher number.

1. 0 I do not feel sad.
 1 I feel sad.
 2 I am sad all the time and I can't snap out of it.
 3 I am so sad or unhappy that I can't stand it.
2. 0 I am not particularly discouraged about the future.
 1 I feel discouraged about the future.
 2 I feel I have nothing to look forward to.
 3 I feel that the future is hopeless and that things cannot improve.
3. 0 I do not feel like a failure.
 1. I feel I have failed more than the average person.
 2. As I look back on my life, all I can see is a lot of failures.
 3. I feel as I am a complete failure as a person.
4. 0 I get as much satisfaction out of things as I used to.
 1 I don't enjoy things the way I used to.
 2 I don't get real satisfaction out of anything anymore.
 3 I am dissatisfied or bored with everything.
5. 0 I don't feel particularly guilty.
 1 I feel guilty a good part of the time.
 2 I feel quite guilty most of the time.
 3 I feel guilty all of the time.
6. 0 I don't feel I am being punished.
 1 I feel I may be punished.
 2 I expect to be punished.
 3 I feel I am being punished.

7. 0 I don't feel disappointed in myself.
 1 I am disappointed in myself.
 2 I am disgusted with myself.
 3 I hate myself.
8. 0 I don't feel I am any worse than anybody else.
 1 I am critical of myself for my weaknesses or mistakes.
 2 I blame myself all the time for my faults.
 3 I blame myself for everything bad that happens.
9. 0 I don't have any thoughts of killing myself.
 1 I have thoughts of killing myself, but I would not carry them out.
 2 I would like to kill myself.
 3 I would kill myself if I had the chance.
10. 0 I don't cry any more than usual.
 1 I cry more now than I used to.
 2 I cry all the time now.
 3 I used to be able to cry, but now I can't cry even though I want to.
11. 0 I am no more irritated by things than I ever am.
 1 I am slightly more irritated now than usual.
 2 I am quite annoyed or irritated a good deal of the time.
 3 I feel irritated all the time now.
12. 0 I have not lost interest in other people.
 1 I am less interested in other people than I used to be.
 2 I have lost most of my interest in other people
 3 I have lost all of my interest in other people
13. 0 I make decisions about as well as I ever could.
 1 I put off making decisions more than I used to.
 2 I have greater difficulty in making decisions than before.
 3 I can't make decisions at all any more.
14. 0 I don't feel that I look any worse than I used to.
 1 I am worried that I am looking old or unattractive.
 2. I feel that there are permanent changes in my appearance that make me look unattractive.
 3. I believe that I look ugly.
15. 0 I can work about as well as before.
 1 It takes an extra effort to get started at doing something.
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.

16. 0 I can sleep as well as usual.
 1 I don't sleep as well as I used to.
 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 3 I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 I don't get more tired than usual.
 1 I get tired more easily than I used.
 2 I get tired from doing almost anything.
 3 I am too tired to do anything.
18. 0 My appetite is no worse than usual.
 1 My appetite is not as good as it used to be.
 2 My appetite is much worse now.
 3 I have no appetite at all anymore.
19. 0 I haven't lost much weight, if any, lately.
 1 I have lost more than 5 pounds.
 2 I have lost more than 10 pounds.
 3 I have lost more than 15 pounds.

I am purposely trying to lose weight by eating less. Yes ____ No ____

20. 0 I am no more worried about my health than usual.
 1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
 2 I am very worried about physical problems and it's hard to think of much else.
 3 I am so worried about my physical problems that I cannot think about anything else.
21. 0 I have not noticed any recent change in my interest in sex.
 1 I am less interested in sex than I used to be.
 2 I am much less interested in sex now.
 3 I have lost interest in sex completely.

APPENDIX C

CHILDREN'S GLOBAL ASSESSMENT SCALE (CGAS)

100-91	Superior functioning
90-81	Good functioning
80-71	No more than a slight impairment in functioning
70-61	Some difficulty in a single area, but generally functioning pretty well
60-51	Variable functioning with sporadic difficulties
50-41	Moderate degree of interference in functioning
40-31	Major impairment to functioning in several areas
30-21	Unable to function in almost all areas
20-11	Needs considerable supervision
10-1	Needs constant supervision
100-91	<i>Superior functioning</i> in all areas (at home, at school and with peers); involved in a wide range of activities and has many interests (e.g., has hobbies or participates in extracurricular activities or belongs to an organized group such as Scouts, etc.); likeable, confident; 'everyday' worries never get out of hand; doing well in school; no symptoms.
90-81	<i>Good functioning in all areas</i> ; secure in family, school, and with peers; there may be transient difficulties and 'everyday' worries that occasionally get out of hand (e.g., mild anxiety associated with an important exam, occasional 'blowups' with siblings, parents or peers).
80-71.1	<i>No more than slight impairments in functioning</i> at home, at school, or with peers; some disturbance of behaviour or emotional distress may be present in response to life stresses (e.g., parental separations, deaths, birth of a sib), but these are brief and interference with functioning is transient; such children are only minimally disturbing to others and are not considered deviant by those who know them.
70-61	<i>Some difficulty in a single area but generally functioning pretty well</i> (e.g., sporadic or isolated antisocial acts, such as occasionally playing hooky or petty theft; consistent minor difficulties with school work; mood changes of brief duration; fears and anxieties which do not lead to gross avoidance behaviour; self-doubts); has some meaningful interpersonal relationships; most people who do not

know the child well would not consider him/her deviant but those who do know him/her well might express concern.

- 60-51** *Variable functioning with sporadic difficulties or symptoms in several but not all social areas;* disturbance would be apparent to those who encounter the child in a dysfunctional setting or time but not to those who see the child in other settings.
- 50-41** *Moderate degree of interference in functioning in most social areas or severe impairment of functioning in one area,* such as might result from, for example, suicidal preoccupations and ruminations, school refusal and other forms of anxiety, obsessive rituals, major conversion symptoms, frequent anxiety attacks, poor to inappropriate social skills, frequent episodes of aggressive or other antisocial behaviour with some preservation of meaningful social relationships.
- 40-31** *Major impairment of functioning in several areas and unable to function in one of these areas* (i.e., disturbed at home, at school, with peers, or in society at large, e.g., persistent aggression without clear instigation; markedly withdrawn and isolated behaviour due to either mood or thought disturbance, suicidal attempts with clear lethal intent; such children are likely to require special schooling and/or hospitalization or withdrawal from school (but this is not a sufficient criterion for inclusion in this category).
- 30-21** *Unable to function in almost all areas* e.g., stays at home, in ward, or in bed all day without taking part in social activities or severe impairment in reality testing or serious impairment in communication (e.g., sometimes incoherent or inappropriate).
- 20-11** *Needs considerable supervision* to prevent hurting others or self (e.g., frequently violent, repeated suicide attempts) *or* to maintain personal hygiene *or* gross impairment in all forms of communication, e.g., severe abnormalities in verbal and gestural communication, marked social aloofness, stupor, etc.
- 10-1** *Needs constant supervision* (24-hour care) due to severely aggressive or self-destructive behaviour or gross impairment in reality testing, communication, cognition, affect or personal hygiene.

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